

# PROBING TIMES

a publication of **Geoprobe Systems®**

INNOVATIVE RIGS AND EQUIPMENT FOR THE  
Environmental, Geotechnical, Geothermal and Mineral Exploration Industries

Fall 2012

## SUPERIOR MACHINE. IMPRESSIVE PERFORMANCE.

New options for the Geoprobe® 7822DT add to the appeal of this machine and continue to expand its utility across a wider range of project types. Owned by CS Drilling in Naperville, IL, this 7822DT has been a good fit for the services they offer their clients and for what their drilling crews want in a dependable rig that performs well in the field.



# Needs Vary; Performance Is Key

Rig owners all have specific needs in a machine. That's why we equipped the Geoprobe® line with so many 'in demand' features and have so many options available to add to your rig at the time of purchase, or a few months down the road as more services are requested by your clients. The Geoprobe® engineering team always has something new in the works, including making current technology better. If you attended the 2012 Open House in April you saw a field full of new equipment these guys had been working on. Thanks to the Machine Engineering Team, Geoprobe Systems® has a rig with the capabilities you need and the options you want. But one thing you all want is performance. And so do we. We know you've come to expect it from us, and we won't let you down. Check out some of the new options available for your Geoprobe® rig. Call us for more information or visit our website, [geoprobe.com](http://geoprobe.com).



Geoprobe® Machine Engineers: (front row, l to r) Jason Eikleberry, Brent Kejr, Mark Abker, Josh Dreiling, Ryan Kejr. (back) Aaron Kaufmann, Darin Huelsman, John Frost, Jon Baier, Nathan Peters.

## 8140 ROTARY SONIC



### Geoprobe® Rod Loader

- Handles Full-Length Casings
- 3.5 in. to 9-5/8 in. Clamping Range
- Wide range of motion allows easy loading/unloading, even at angles
- Adjustable angles permit precise head alignment
- Separate controls provide for very efficient working crews
- Integrated Safety Controls

# GEOPROBE®

# SOIL ..

## 6712DT



The new 6712DT is a light-weight, small footprint machine, great for shallow sampling and for hard-to-get-to projects. It's also the ideal rig for residential areas for foundation and other geotechnical sampling work. When used for work in remote areas, the machine disassembles into three separate parts, and can be re-assembled in about 15 minutes. If you were a 6610DT fan, here's your new best friend in the field. More information is available at [geoprobe.com](http://geoprobe.com).

## 7822DT



The new control panel design for the 7822DT with Operator Interface has a digital display screen with multi-function output and advanced warning displays. The rig can also be fitted with a head feed control manifold that gives the operator precise bit weight control and has the capability of providing hands free drilling.



The 7822 Series 6-in. single clamp breakout.

## 5410

The 5410 is the ideal Pack'n Go probe! Although the 54 series machines have been around for awhile, many of you are still running them and are completely satisfied with the results. No need for trailers, special equipment, or heavy tooling. The 5410 performs well for shallow soil and groundwater sampling, soil gas sampling, and Direct Image® logging.



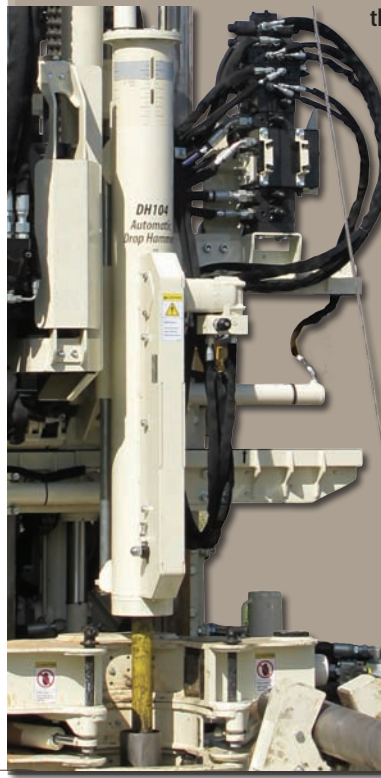
Quinton Wilson uses the 7822DT equipped with a new Rotational Safety Cage interlocked with both the head feed control module and auger rotation speed. When the cage door is opened, the auto head feed is disabled and drilling rotation is slowed to a safe condition. He was setting 4.5-in. conductor casing in preparation for wireline coring.





## DH104 Auto Drop Hammer

"I can recall enquiring about mounting an auto drop SPT hammer on the 8140LS which raised some eyebrows at Geoprobe®. At McMillan Drilling, we wanted to procure a sonic drill rig that catered to both environmental and geotechnical markets – the SPT hammer was a basic prerequisite for the latter. Most sonic drill rigs did not offer an integrated auto drop SPT hammer. It didn't take long for Team Geoprobe® to say they would build a mast-mounted, auto drop SPT hammer to satisfy our needs! We have now completed several thousand SPT tests since we took delivery of our 8140LS. We find the functionality of the mast-mount hammer exceptional which has helped maintain a safe and efficient workplace for our operators. The hammer has proven to



be reliable and has not required any maintenance other than normal servicing. We have since purchased a second 8140 sonic rig, also with a mast-mounted auto drop SPT hammer. That should demonstrate we're 'sold' on the Geoprobe® product!"

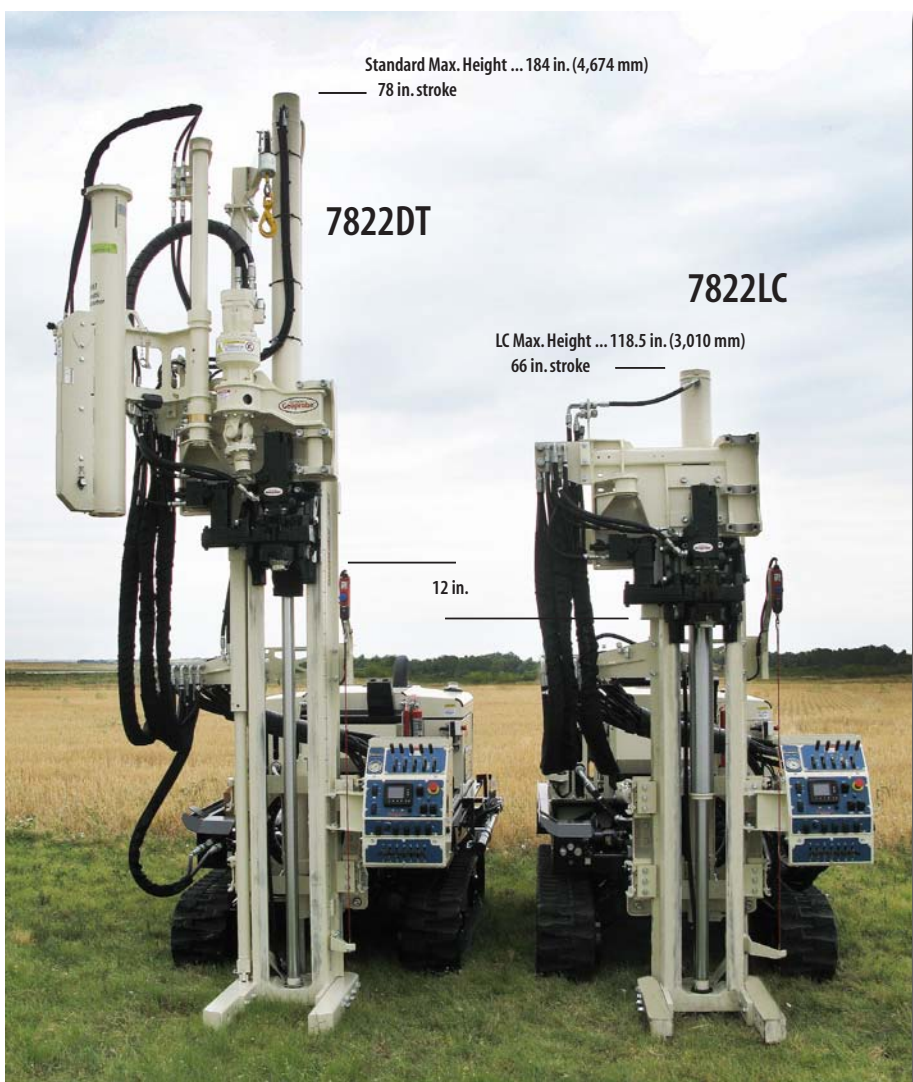
...Iain Haycock, Manager,  
McMillan Drilling,  
Canterbury, New Zealand

# WATER .. ROCK

High-Quality, Easy, Economical Samples.



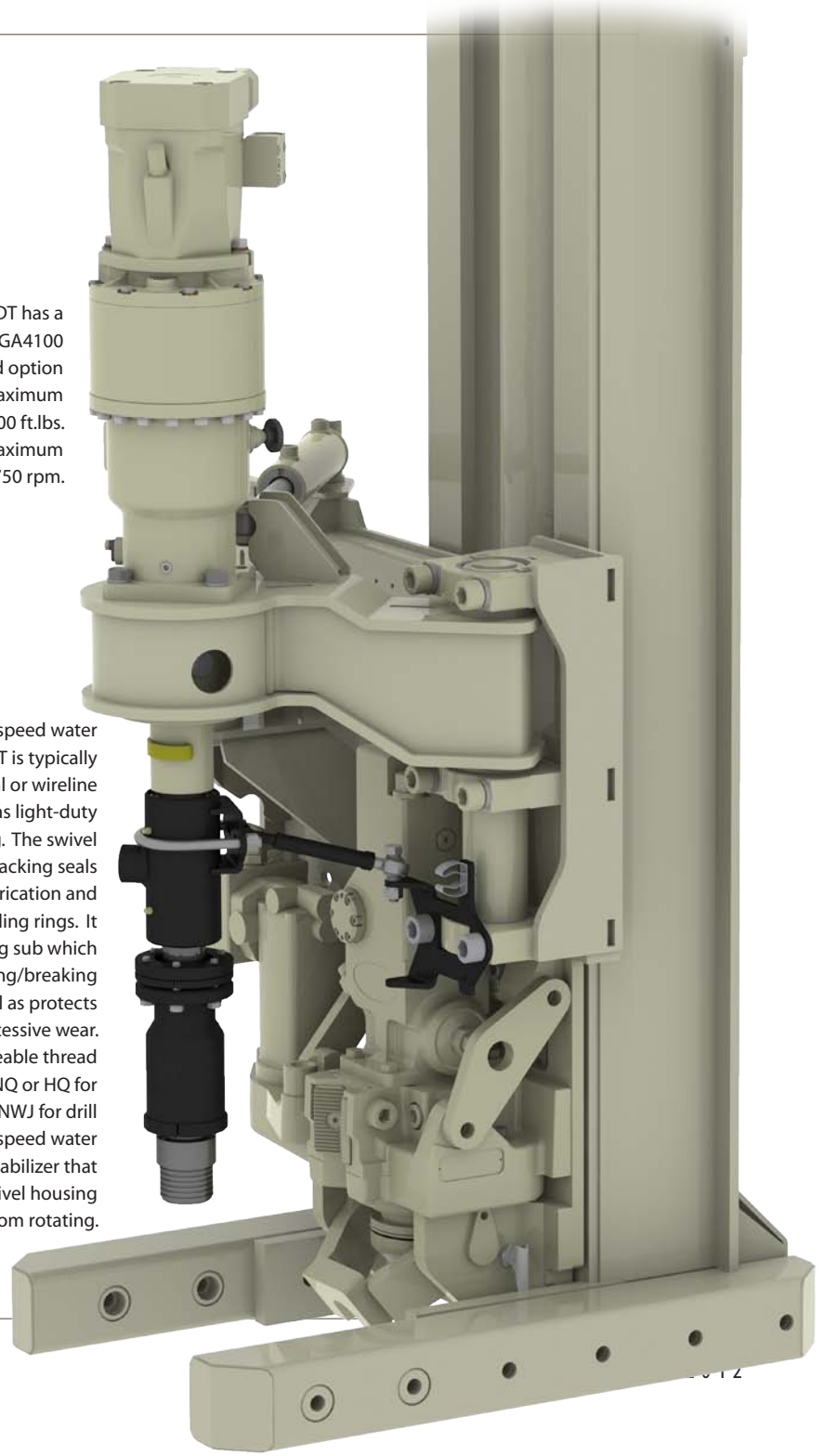
## New Configuration Option for 78 Series rigs!



Do you have a specialty low-clearance project? There's a new LC configuration (low clearance) option available for the 7822DT designed specifically to work under 8-ft. (2.4 m) ceilings. Purchase a dedicated LC machine, or retrofit an existing 7822DT to conform to the LC height. Three-foot tooling is required for the 7822LC. Call for details! 1-800-436-7762.

The 7822DT has a new 4-speed GA4100 Augerhead option has a maximum torque of 4,000 ft.lbs. and a maximum speed of 750 rpm.

The new high-speed water swivel for the 7822DT is typically used for conventional or wireline rock coring as well as light-duty wet rotary drilling. The swivel utilizes standard packing seals with grease lubrication and replaceable sealing rings. It includes a floating sub which aids in making/breaking tool joints as well as protects threads from excessive wear. The interchangeable thread couplings are NQ or HQ for wireline rods or NWJ for drill rods. The high-speed water swivel also has a stabilizer that prevents the swivel housing from rotating.



# GEOPROBE<sup>®</sup> SONIC

Specialized Soil and Rock Sampling Systems

## THE TOOLING

### Design It. Test It. Manufacture It.

The Geoprobe<sup>®</sup> approach to sonic tooling is unique. We design the product. We build the product. We submit the product to rigorous field testing. Then we continually improve the product. "That's the Geoprobe<sup>®</sup> way! And we do it all," said Mike Carlin, Tools Group Leader. "We don't outsource any of our design or manufacturing processes. We have total control of the production of our tooling. It's the only way we can deliver high-quality products with the consistency of performance you've come to expect from the Geoprobe<sup>®</sup> brand."

When Team Geoprobe<sup>®</sup> began to develop the sonic tooling line ten years ago, our engineers realized there were very few tooling options on the market. "It seemed that the industry was stuck in vanilla mode," Mike said. "We have vanilla, but we offer a lot more 'flavors.'" The Geoprobe<sup>®</sup> sonic product line offers you the widest array of bits and sampling systems available; from conventional telescoping soil coring to dual tubing and face flush bits for rock coring. Our sonic tooling joints are engineered for ease of make-up and break-out with no galling or deforming in the thread area. (Field operators report they can immediately tell the difference.)

### Investments Key To Superior Products.

Our goal is to design superior products that improve existing technology, and to develop new technology that increases efficiency and improve results in the field. The investment the company has made in engineering staff, new manufacturing processes, high-quality raw materials (aircraft-quality steel is used for Geoprobe<sup>®</sup> sonic tooling), and extensive field testing across the U.S., underscores the company's commitment to providing superior sonic tooling products.

### New Technology.

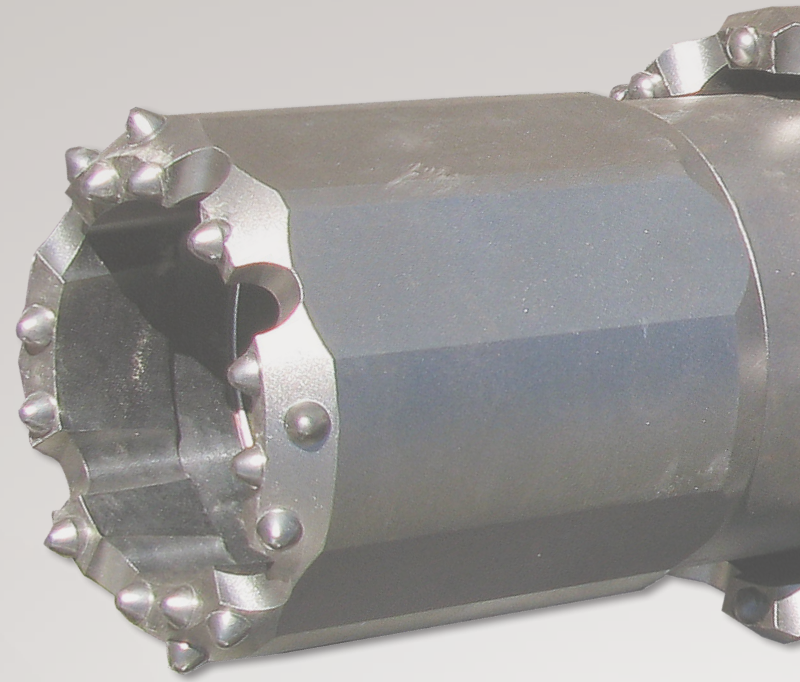
Geoprobe Systems<sup>®</sup> has the only dual tube products available for sonic rigs. The dual tube process is faster than regular 4x6 or 6x8 sampling, there's less fatigue on the operator, and core samples are collected in liners to keep materials in tact and easily viewable. According to Mike, our dual tube offering practically sells itself. "We encourage people to see a 4x6 and SDT45 [sonic dual tube 4.5 in. OD] demo. SDT45 is the winner, no question."

### When Customers Talk, Geoprobe<sup>®</sup> Listens.

At Geoprobe Systems<sup>®</sup>, you can speak to a sonic tooling expert who is experienced with tooling in a variety of geologic settings who can advise you in tooling selection and application technique. "We have close interactions with our customers," Mike added. "It's that interaction that drives what we work on. It also helps us know what challenges our customers have. We're also hearing a lot of appreciation from our customers for having our sonic tooling in stock." Sonic tools are not made to order; they're on the shelf and ready for the customer.

"We aren't content to do what's already been done. There's a better way to do things, a better way to design things, and we aim to find those better ways and bring them to the table," Mike said. That's why our sonic tooling is going into the ground almost every day at Geoprobe Systems<sup>®</sup>. Our sampling systems are exclusive to Geoprobe<sup>®</sup>, and our tooling is made to the highest quality standards and backed by unsurpassed customer service.

That's why we call it Genuine Geoprobe<sup>®</sup>.



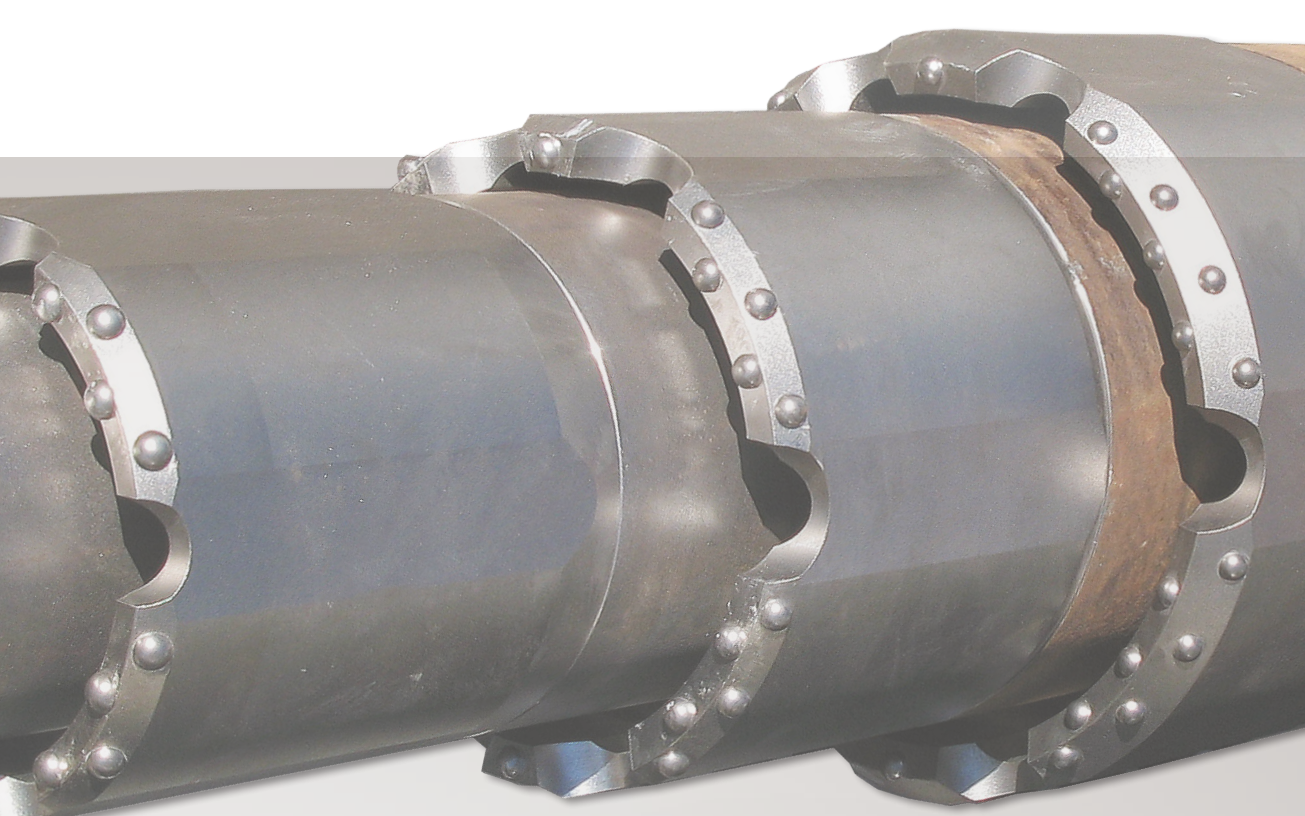
Exclusive to the Geoprobe<sup>®</sup> line of sonic tooling is the SDT 60 and SDT45, 6 in. and 4.5 in. OD dual tube soil sampling systems ... the only sonic dual tube tooling in the market.



### Geoprobe<sup>®</sup> Sonic Bit Sizes (shown actual size)

• 10 in. • 8 in. • 6 in. • 4.5 in.

Geoprobe<sup>®</sup> Carbide Bits are designed with unique water channels for cutting through consolidated formations (rock) where face flushing is needed.



## 4x6 Sampling



Geoprobe® nested sonic casing and bits: 4.5 in. 6 in., 8 in. and 10 in.

## 6x8 SDT45



6x8 soil cores (left) and SDT45 cores (right) collected using Geoprobe® Sonic Tooling and 8140LC. The SDT45 cores were collected using a smooth shoe (44917). The liners are 72 in. long and were advanced 60 in. Recovery is very near 100 percent. The full liner on the left of the row represents soil heave on top. The extra liner length gave room for an uncompromised core underneath the heave material. With SDT45, soil cores are collected in clear PVC liners and are easily removed without disturbing the soil core. With 6x8, the soil cores are collected in a barrel (without liner) and have to be vibrated out, disrupting the soil core.

## 6x8



6x8 silt samples collected using a Geoprobe® 8140LS in Georgia. The material was likely dredged out of a nearby waterway.

*"We recently used the Geoprobe® sonic tooling with the 8140LS on a project involving drilling, soil and groundwater sampling, well construction to depths of approximately 100 ft. at ten locations."*

*Peter Byer, President SAEDACCO, Fort Mill, SC*



# THE RESULTS

## SDT60



Mike Carlin (left), Jed Davis, and Dave Golden (with camera), Geoprobe® Tooling Engineers, test new Geoprobe® DT60 sonic tooling by collecting 200 ft. of 6.0 in. cores using a Geoprobe® 8140LS and Geoprobe® sonic tooling. Kansas wind chills during the test period were 0 degrees.

Geoprobe® Tooling Engineers, Mike Carlin, Jed Davis, and Dave Golden, collected 200 ft. (61 m) of cores in the backyard in January using a Geoprobe® 8140LS Rotary Sonic and SDT60 (sonic dual tube 6 in. OD) tooling. Each recovered core samples were approximately 4.3 in. (109 mm) OD and 10 ft. (3 m) in length. In the photo to the right are the bottom 100 ft. (30 m) of the 200 ft. boring. (The top of the core segment is at the lower right, and the final 10 ft. segment begins at the upper left.)

Approximately the first 60 ft. (18 m) of the boring (not shown) penetrated the Smoky Hill Alluvial Aquifer that consists of clays, silts, sands and gravels. These recent deposits unconformably overlay the Permian Age Wellington formation that can be up to 700 ft. (213 m) thick in this area. The Wellington consists primarily of dark gray, gray, to greenish-gray shales, most of what you see here. Near the bottom of the formation the guys encountered some thin beds of limestone (lighter color at top left). (Inset) One piece of the medium-gray limestone taken at about 195 ft. (59 m) below grade is the same piece being held by hand in the large core photo. Some vein filling of selenite gypsum was also found in the limestone core. A small piece of one of the gypsum veins from a fracture is shown in with the limestone sample.

This is but one of countless R&D tests conducted during the past few years during the development phase of Geoprobe® sonic tooling. Engineers work closely with customers, who provide valuable product feedback, and with our machinists until absolutely the best design, the correct materials, and the strongest tooling can be developed and produced.



## SDT45

Carbide dual tube bits cored soils and boulders that the direct push and HSA could not. Previous contractors had tried to advance an air hammer, but the unconsolidated material, ground water proved too difficult. Using a Geoprobe® 8140LS, water and or mud were combined to effectively penetrate any of the formations which were dense till materials overlying liquidified sands to 80 ft. Below 80 ft. gravel lenses and boulder layers were present to a depth at 150 ft. The sands were cored using 10-ft. sample barrels. Holes were over cased to 120 ft. and finished with dual tube.



## 8 in. Casing



A Geoprobe® 8140LC and 8 in. Geoprobe® Sonic Tooling were used to install a 5 in. water well for residential use. Using a mid-sized sonic rig helped reduce the size and footprint of the rig required to get into the backyard. The well was set in loose sand and gravel that would be very difficult to stabilize with mud. With mud, the well would need to be developed with far more effort. According to Quinton Wilson, Geoprobe® Customer Service and Drill Operator, "Controlling the hydraulic pressure differentials with hollow stem augers would be a pain, and it would make far more mess than the sonic rig made, not to mention HSA would require more manual effort. We had a 5 in. well set to 55 ft., in and out, pumped and developed, and disinfected in 3-4 hours with no mud pit or mud processor, no second rig tender, and minimal disturbance to the yard."



It wasn't the first time Aquifer Drilling & Testing had been at a former landfill site in New England. ADT, equipped with a track-mounted hollow stem auger rig, had first been to the site in 1999, back in the woods where the geology consisted of glacial till mixed with cobbles and large boulders. "Our first task was to collect soil borings," recalled Marques Larabie, Operations Manager for ADT. "We encountered some of the most difficult drilling that we had seen in a long time. Sometimes it took up to three days, or more, to get to

35 ft. with conventional hollow stem augers!" Odex drilling was also attempted, but sample quality was poor. ADT used telescoping drive and wash casing, starting with 6 in. OD casing until they hit refusal, then used 5 in., then 4 in., then 3 in. casing, each time drilling until they hit refusal. They still could not make it to depth.

So when this same site came up for bids again this year, and ADT was awarded the contract, they mobilized their Geoprobe® 8140LC Rotary Sonic with hopes of being able to reach the depths needed and provide large volume samples that the client requested. Chris Jenkins, ADT Driller, and Chris Mason, Driller's Helper, arrived on site, and after a quick walk around to get their bearings, the 8140LC was fired up. The field team quickly reached the target depth on the first hole and installed multi-level wells to collect groundwater samples at the site, all in under four hours. "We quickly realized our two goals for the project," Marques added. "Not only did the 8140LC easily made it to depth, but we provided the customer with some great samples."

Aquifer Drilling and Testing has offices in New York and Connecticut.



The ADT field team used 6 in. casing with the Geoprobe® 8140LC for soil core collection and for installing multi-level wells.

# Aquifer Drilling & Testing Teams Up With 8140LC For Successful Project



Thirteen years ago, this former landfill site in New England proved to be too much for an Aquifer Drilling & Testing HSA rig. But ADT's Geoprobe® 8140LC Rotary Sonic cut through the glacial till allowing the field team to reach their target depth collect soil cores, and set multi-level wells, all in under four hours.

# No Mulligans For C.S. Drilling and 7822DT at Chicago Golf Course

According to Marc Natali, Field Supervisor for C.S. Drilling in Naperville, IL, the company's 7822DT has been a good fit, not only for the services they offer their clients but also for what their drilling crews want in a dependable rig that performs well in the field.

The 7822DT has several options that the C.S. Drilling crew has found beneficial. "The oscillation feature is used daily and is a tremendous help working on slopes," Marc said. "The Drop Rack System is another favorite from using it as a work station to moving 55 gallon drums. With safety being such a big part of our daily routine, it gives us peace of mind knowing there's a safety shut off always within reach" he said.

C.S. Drilling has completed a wide range of projects since taking delivery of its 7822DT in early 2011. Those projects include rock coring on sloped, limited access areas in southeastern Indiana, installing electrical anodes at 50 ft. with 6.25 in. hollow stem augers, and completing 90 ft. geotechnical borings inside a low clearance building, just to name a few.

Having a low clearance machine has allowed the company to safely drill geotechnical borings under power lines where larger drill rigs could not. "Our customers have been very satisfied with the performance of our field teams and the 7822DT," says Gerry Butkus, President of C.S. Drilling.

On a recent project this summer, C.S. Drilling was contracted to collect soil samples and install 2 in. monitoring wells on a golf course in suburban Chicago as part of an ongoing subsurface investigation for arsenic. "The soils varied from very hard clays to rough gravel and cobbles," said Marc. "We used the MC5 Soil Sampling System and installed 2 in. monitoring wells using 4.25 in. hollow stem augers. After pushing through 8 ft. of clay, we had rough gravel and cobblestones to 30 ft." The field team reported that the



C.S. Drilling provides services in the Windy City and throughout the Midwest.

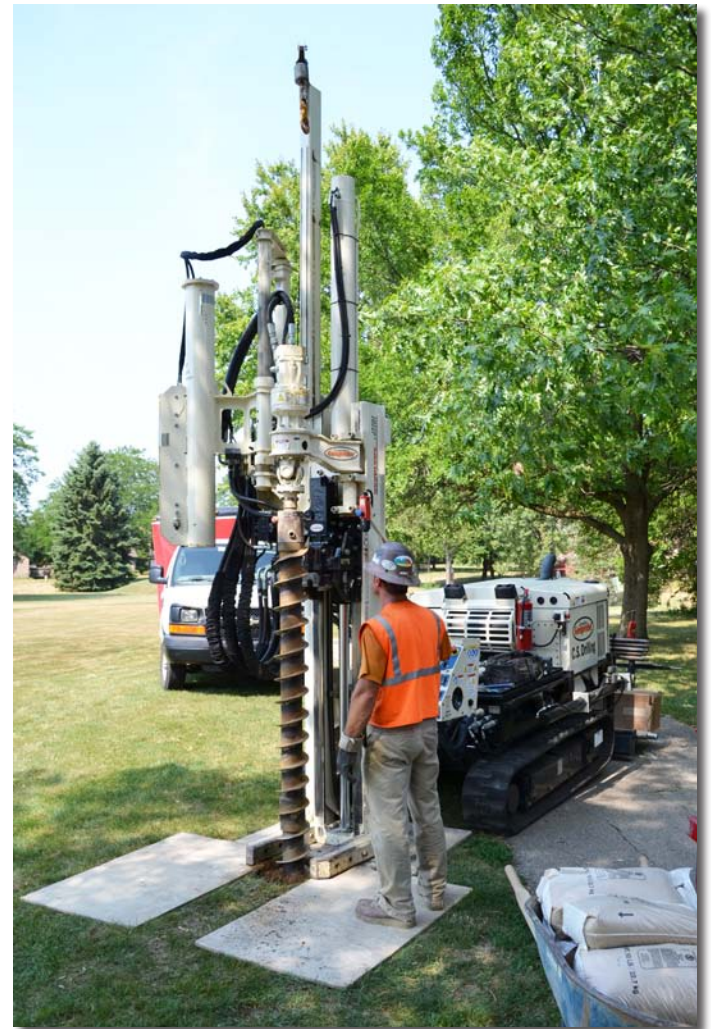
7822DT had plenty of torque to auger through the cobbles.

From the use of ground mats to carefully positioning the rig at the site, the field team made every effort to maintain the appearance of the golf course and landscaping. "The environmental consultant was very happy that our crew and the machine didn't damage the turf on the golf course," Marc said. The relative light weight of the 7822DT makes it a great choice for projects in residential or highly-visible commercial settings where the aesthetic appearance of the site is maintained.

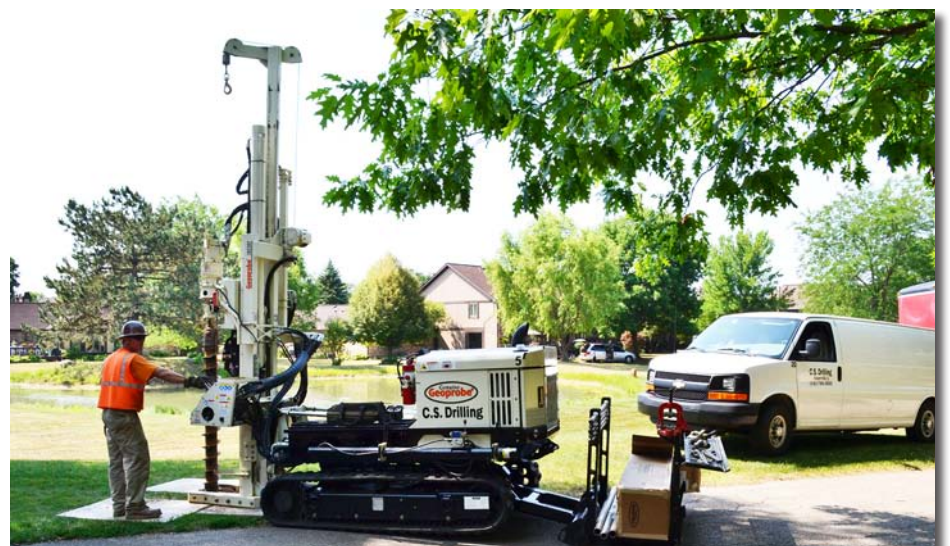
Marc added, "Staying cool was the task of the day as temperatures settled in at 100 degrees during one of the hottest summers on record in Chicago. There weren't many golfers out on the course when we were there!"

"We think the 7822DT is even more user friendly than our 6620DT. The oscillation feature is used daily and is a tremendous help working on slopes. The Drop Rack System is another favorite from using it as a work station to moving 55 gallon drums. With safety being such a big part of our daily routine, it gives us peace of mind knowing there's a safety shut off always within reach."

... Marc Natali, Field Supervisor,  
C.S. Drilling Inc., Naperville, IL



Marc Natali, Field Supervisor and Driller for C.S. Drilling uses 4.25 in. hollow stem augers with their Geoprobe® 7822DT to install 2 in. monitoring wells at a golf course in suburban Chicago. Special care was given to not damage the turf or landscaping at the golf course.



(above) Marc Natali, Field Supervisor and Driller for C.S. Drilling. The monitoring wells were being installed for an ongoing subsurface investigation for arsenic. (below) Cart path rules in effect!



# Direct Image® New Product and New Technology Releases for 2012

*It's been a great year for the Direct Image® Team who continues to move forward with new products and new technology, always with the goal of increased utilization for our customers and better data for their clients.*

Leave it to the DI Team to develop tooling to make things easier. To be honest, none of them really want to pull samples from the subsurface. They prefer to push a probe in the ground and find the positions and strength of contaminants in one fell swoop. Forget sampling followed by some distant analysis. They want to see that data roll across the screen as the probe disappears into the ground. Their R&D days are akin to 'technological trench warfare'! It's the stuff they are accustomed to in R&D; stunning victories sandwiched between periods of stalemate and frustration. But that's just the way these guys roll. And lately those victories have been hitting the mark.

"The Geoprobe® Direct Image® Team continues to advance the capabilities and functionality of logging tools," said Dan Pipp, DI Chemist and DI Specialist. "We believe that reliable equipment and providing users with as much data in a single push increases the value of our Direct Image® tools."

Tom Christy, Vice President of Geoprobe Systems®, agrees. The subsurface investigation industry stands to reap economic as well as technological benefit from the continued development of the DI product line," he said. "Our progress has been at times steady and methodical; improving the robustness, economy, and utility of our logging tools and software. At other times our progress has taken radical steps forward, like we see with the invention of low level MIP, the HPT-GW Sampler, and MiHpt. You have to be involved in the steady progress to find opportunities for revolutionary inventions." But now, in 2012, they have moved things to the next level.

## New MiHpt is Rolling Out the Door

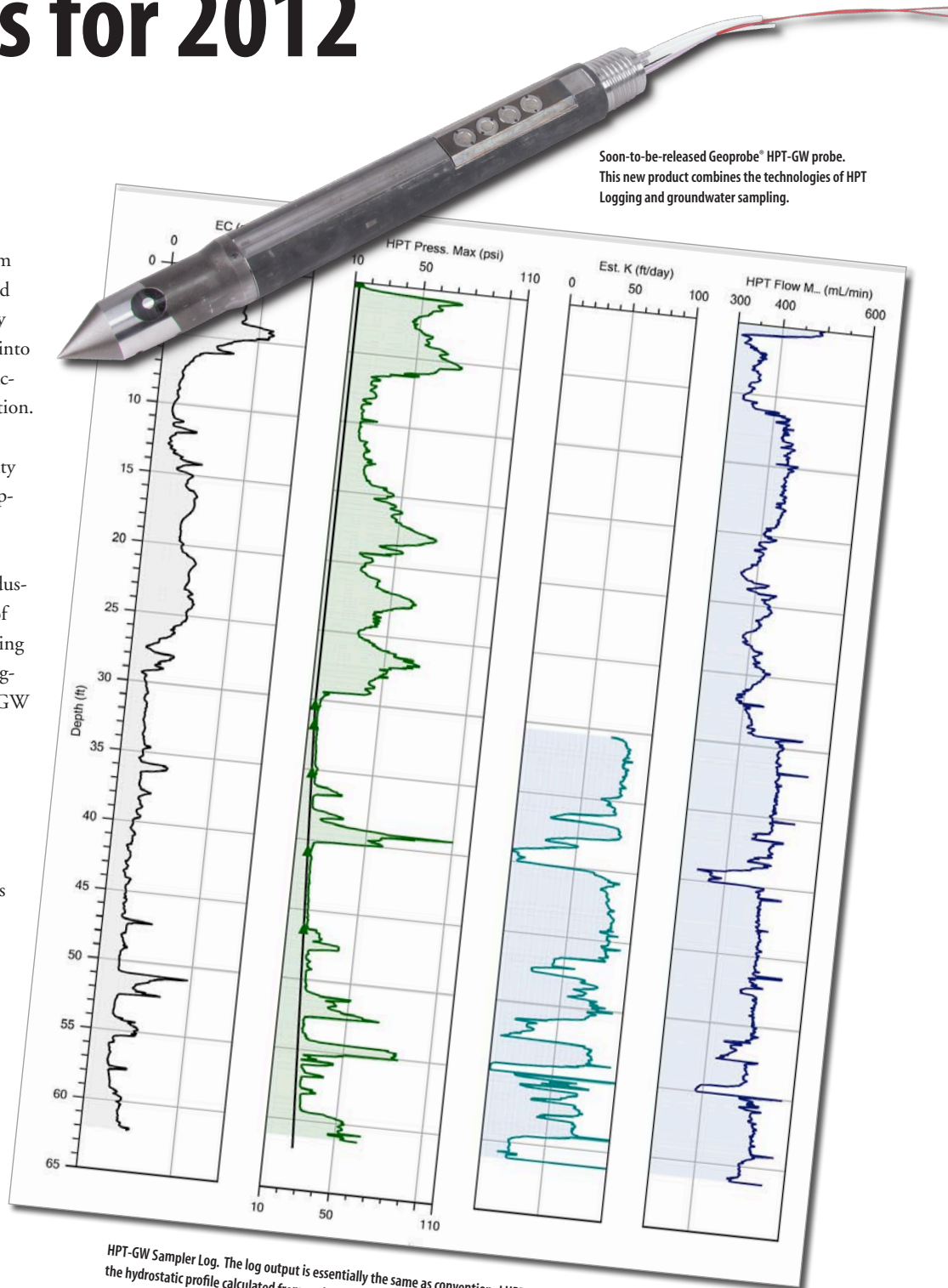
The new MiHpt probe is a combined MIP / HPT tool that allows the user to determine VOC position with the MIP, and permeability and hydrostatic profile with the HPT. The value added to an MIP log by knowing permeability (HPT) is hard to pass up. The DI team is predicting this becomes the standard MIP probe in the future.

"The combined MiHpt tool elevates the bar for MIP logging," Dan said. "Adding the HPT measurements of permeability, estimated hydraulic conductivity, and accurate static water levels to the same push as the MIP contaminant profile is huge for the end user who is often using this information in remediation design plans."

## New Low-Level MIP

The new Low-Level (LL)MIP (patent pending) technology allows the user to lower the MIP detection concentration by at least an order of magnitude. Seeing is believing for MIP field practitioners, but experience with this system leads the DI Team to believe this LL MIP technology will broaden the demand of MIP services. Users can 'see' contaminants with this system that the standard MIP system could not touch.

Doug Koehler, Geoprobe® Customer Service and DI Specialist, explains why he's giving  
*continued on next page*



Soon-to-be-released Geoprobe® HPT-GW probe. This new product combines the technologies of HPT Logging and groundwater sampling.

HPT-GW Sampler Log. The log output is essentially the same as conventional HPT logging. The EC and HPT logs are shown with the hydrostatic profile calculated from multiple dissipation events. The bottom four triangles on the hydrostatic line represent groundwater sampling events as well as hydrostatic pressure measurement points.



Tom Christy of the Geoprobe®-DI Team uses a 6622CPT platform for FFD logging (Fuel Fluorescence Detector) at the Geoprobe® Open House event. The 6622CPT rig is a special purpose machine that shares a common chassis with the popular Geoprobe® Model 7822DT. The front end of the 6622 is a 20-ton, self-anchoring push platform complete with a hydraulic chuck (located between the push cylinders). For this photo, the machine is unanchored and an FFD logging tool is being driven to depth using the GH64 hammer, that is standard to the 6622, and is useful for driving samplers or percussion driven logging systems.

"The subsurface investigation industry stands to reap economic as well as technological benefits from the continued development of the DI product line. Our progress has been at times steady and methodical; improving the robustness, economy, and utility of our logging tools and software. At other times our progress has taken radical steps forward, like we see with the invention of low-level MIP, the HPT-GW Sampler, and MiHpt. You have to be involved in the steady progress to find opportunities for revolutionary inventions."

... Tom Christy, PE, Vice President  
Geoprobe Systems®



MiHpt Probe and Cable. The MiHpt Probe can perform MIP, HPT, and EC measurements in one push ... with one probe.



MiHpt Instrumentation. (left and center) GC1000 MIP Detector System. (right, top down) client laptop, F16000 Field Instrument, K6300 HPT Pump and Controller, and MP6505 MIP Controller.



# Training Seminars Held for Environmental Professionals' Organization of Connecticut

In coordination with Professor Gary Robbins from the University of Connecticut - Storrs, Wes McCall, Geoprobe® Environmental Geologist, and Dan Pipp, Geoprobe® Chemist, conducted two one-day training seminars in Simsbury, CT, for the Environmental Professionals' Organization of Connecticut (EPOC).

"I decided to team up with Geoprobe® for three reasons," Gary said, Professor of Geology at the University of Connecticut - Storrs. "I like the way they think. I like their innovativeness. And I greatly appreciate working with Wes McCall because of his experience and knowhow."

The course, "Expedited/High Resolution Site Assessment Using MIP and HPT Logging Technology," focused on the new combined Membrane Interface Probe / Hydraulic Profiling Tool (MiHpt) technology. The course covered the instrumentation of the MiHpt system, basics of field operation, and interpretation of logs.

Wes and Dan used course information to:

- Educate EPOC and regional environmental professionals about Direct Image® logging technologies.
- Provide the basic understanding of how logging technologies work and how to use logs to better understand site geology, hydrostratigraphy, and contaminant distribution.
- Obtain a better understanding of site conditions so more effective remediation programs can be developed to clean up contamination efficiently and more cost effectively.

Professor Robbins opened both mornings by describing the short comings of traditional site characterization techniques, specifically how conventional 2.0 in. monitoring wells with 10 ft. or longer screens lead to biased groundwater data and misinterpretation of site conditions and contaminant distribution. He then introduced how Geoprobe® logging technology was a positive advance to better understand contaminant distribution, and provide a better site conceptual model so that remediation could be accomplished more effectively.



Nearly 100 Environmental Professionals attended the Direct Image® seminars in Simsbury, CT, in June. Temperatures for the two-day event reached a record 103 degrees F.

EPOC members include local and regional consultants and regulators in the environmental industry with backgrounds in engineering, geology, environmental science and other related fields.

"I am certain those who attended walked away appreciating how a tool like the MiHpt can expedite and enhance a site investigation," Gary added. "In this case, the old adage applied, 'you have to see it to believe it,'" he said.

Attendees received 8 hours of continuing education credit by the EPOC, Massachusetts LSPA (Licensed Site Professionals Assoc.), and the New York State Professional Engineers.

Geoprobe Systems® is available to conduct this seminar or others pertaining to similar technology for professional groups as well as state and federal regulatory agencies. Anyone interested should contact Wes McCall at 1-800-436-7762.

"The course included conducting an expedited and enhanced site assessment using the new MiHpt tool at a site that had gasoline and solvent contamination from multiple sources. We also showed how the tool can help monitor remediation effectiveness.

The MiHpt provided real time visualization of the vertical extent of contamination and profiles of relative permeability. My mantra for years has been that three dimensional site characterization is critical. What I like most about the MiHpt is that it's a cost-effective tool for meeting this goal."

... Gary Robbins, Professor of Geology  
Department of Natural Resources and the Environment  
University of Connecticut, Storrs, CT



Geoprobe Systems® conducted two one-day training seminars for the Environmental Professionals' Organization of Connecticut (EPOC) in Simsbury, CT, focusing on the new MiHpt Tool, a combination of the Hydraulic Profiling Tool (HPT) and Membrane Interface Probe (MIP).

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this new technology two thumbs up! "Low-Level MIP will be an affordable means to improve MIP detector sensitivity and equipment usage. The improved sensitivity will result in more field days for MIP systems with plume definition going lower than ever before. It will also give users more confidence in their results. I expect customers to use MIP on projects with LL MIP technology that would not have otherwise been started because of low site VOC concentrations." Expect a 2012 Fourth Quarter release date for this product.

## New HPT-GW

The DI team is working full throttle on another new product ... the HPT-GW Sampler. It's a 2.25 in. probe that provides an EC log and an HPT log, and allows you to select intervals and obtain a groundwater sample using a built-in mechanical bladder pump (MBP). Users can also measure and record pressure change during sampling. HPT logs are already growing in use as a means of understanding permeability distributions in soil profiles. This tool is a breakthrough in that it provides practical groundwater profiling during the logging process. "The HPT-GW Sampler is a key example of that next level product," Tom Christy



A field team in Denmark review MIP detector results and HPT pressure log onscreen as the MiHpt probe is advanced. Having the HPT pressure log along with the detector results is useful in understanding how the lithology controls contaminant migration.

added. "Our prediction is that groundwater sampling with this tool will replace a large percentage of alternative methods currently employed in the field. It's that good and that practical."

"This product combines HPT logging and GW sampling in a single push," Dan said. "It will speed up time in the field, provide valuable log data, and give greater confidence to the users regarding where in the formation samples are coming from." Expect a 2012 Fourth Quarter roll-out on this one.

## Decreased Cost / Increased Satisfaction

But it's not just about what's new. The DI Team continues to review, refine, and redesign products that are currently used in the field. The DI logging tool you drive into the ground today, whether its MIP, HPT, or EC, is not the same tool produced a few short years ago. They have relentlessly pursued robustness in the redesign of the DI tool line. The 'per foot' cost of using these probes has decreased, and the satisfaction of field users has increased.

## Probes Are Rebuildable

Another feature added to DI probes in the last couple years is that they are factory rebuildable. Every driven probe has a life span determined by driving conditions. When the probes wear out, they can be rebuilt, generally at about half the cost of a new one. This lowers the 'per foot' operating cost of DI logging.

So, like we said earlier, the Geoprobe®-DI Team is having a good year. Tom added, "The goal for our customers is increased utilization of the equipment and better data for their clients. We're pleased with the results of our product development, and we think the tooling in our pipeline is pretty exciting."

More information about the DI product line is available at [geoprobe.com](http://geoprobe.com), or by calling one of our DI Specialists at 1-800-436-7762.



The Direct Image® Team: (l to r) Blake Slater, Wes McCall, Steven Colgrove, Tom Christy, Mickey Davis, Greg Shipley, Brandon Toll, Dan Pipp, Ryan Halferty, Sean Bigler, Doug Koehler, and Troy Schmidt.

# 2012 GEOPROBE® OPEN HOUSE DAY 1



*April's Two-Day Open House had it all ...*  
**New Technology!**  
**New Equipment Demonstrations!**  
**A Look at Soon-to-be-Released Products!**  
**Product Workshops!**



## DIRECT IMAGE

"I learned more in 30 minutes today about our rig's electrical system than I would have in a year just working with the rig," said first-time attendee Dean Bryant, Owner of Mad Dawg Drilling in North Carolina. Wayne Smith, Owner of Custom Drilling Services in Florida, agreed. "What a great bunch of folks and a very cool company." Both were talking about the 2012 Geoprobe® Open House held in April at the Geoprobe® Manufacturing Facility in Salina, KS.

Tom Christy, Vice President of Geoprobe Systems®, greeted approximately 150 guests who came from all over the world. "Some of you have been customers of ours for over 20 years. Welcome, and thank you," he said. "Some of you are meeting us for the first time. Welcome, and it would be an honor to work with you. Some of you are from Europe, Japan, Brazil, and other countries. Welcome, and thank you for coming so far to see us." Open House guests were treated to a sneak peak at new products not yet released to the public, and also had the opportunity to participate in two days of workshops and demonstrations led by over 50 Geoprobe® customer service and engineering staff. Day 1 consisted of a Direct Image® Workshop and a Geoprobe® Machine Service Workshop followed by a Customer Appreciation Dinner celebrating the company's 25 years in service. Attendees gathered early on Day 2 for a packed schedule of machine and tooling demonstrations, and some great barbeque.

Two other Geoprobe® Open House events were held in 2008 and 2010. "It is a benefit to us as contractors to know that Team Geoprobe® is not just a partner for today," said Mark Schock, Owner of Glacier Drilling in Connecticut, "but for the future as well." We hope to see you next time!

*Day 2 Open House photos continue on the following two pages.*

Tom Christy  
 Vice President of Geoprobe Systems®



# SERVICE WORKSHOP



"I really appreciated the opportunity to see the equipment being demonstrated. This gave me the ability to see how we may be able to use the equipment ourselves."  
 .... Dan Israel, PE, Executive Vice President  
 Terracon Consultants, Olathe, KS

"The Open House was really good. It was my first time to your facility. I really enjoyed it."  
 .... Roddy Qualls, Strata Core Services  
 Fort Worth, TX

"I've been in the drilling industry for 20 years and this is the best drilling show I've ever been to. You all really put forth the effort. It was great. The service workshop was really helpful for us. I learned more in 30 minutes today about our rig's electrical system than I would have in a year just working with the rig. It probably saved you guys a lot of phone calls from us!"  
 .... Dean Bryant, Owner  
 Mad Dawg, Iron Station, NC

"We enjoyed the discussions with the Direct Image® folks regarding real-world applications."  
 .... Scott Bergeron, PE, Owner  
 Professional Technical Support Services  
 Baton Rouge, LA

"Thanks again for the wonderful hospitality afforded to us in Salina. What a great bunch of folks and a very cool company."  
 .... Wayne Smith, Owner, Custom Drilling Services  
 Mulberry, FL

## comments from our guests ...

"I thought the Open House event was really great. It's impressive to see the final outcome, and the preparation was apparent and identifiable. What a busy day. It gives me, the customer, the feeling and desire to be informed as well as the 'I saw' feeling. When you watch the machines perform, you have created a tangible event that the consumer/customer can identify with. If I had known the event would have been of that caliber I would have certainly brought others."  
 .... Mark Schock, Owner, Glacier Drilling, Durham, CT

"The pride that everyone at Geoprobe® has for the equipment they build and the services they provide really stands out. From shipping and receiving to welding and fabrication it was great to see that so much care and attention to detail is included at every step. The entire Geoprobe® team was great to interact with. The best part of the entire experience was to see the Geoprobe® team use the equipment and be able to interact with it as they were running demonstrations. Your team doesn't just stand there and say, 'this is what our tooling systems are designed to do.' They were not satisfied until they put everything to work and showed everyone exactly what the equipment was capable of doing. There were many demos over the two days, and every one of them was educational and great to watch. The 'up close and personal' interactions with the machines and people made for a very unique learning experience."  
 .... Brian A. Edwards, BeneFerra, Sheridan, WY

"I'm glad I made the long trip because it was well worth the effort. The demonstrations were conducted efficiently by experienced crews that showed the real capability of each rig. The 8040DT was of particular interest to me because of the hammer power and its ability to hammer while rotating the tools. The 8140 sonic monitoring well demonstration offered the biggest surprise as the driller easily overcame a sand-locked screen with the pull of a lever. I wish I'd had a lever like that many times over the past 30 years. Over great food I had the opportunity to discuss hammer upgrades with Team Geoprobe® and other contractors from across the country. And then shopping with Lee in the Distribution Center ...."  
 .... Bill Canty, Owner, Aqua-Plus, Rogers, MN

"I enjoyed all of the demonstrations, and your hospitality felt genuine. I gained some useful information from the demonstration of MIP tooling that I will be required to utilize for an upcoming project. I also really enjoyed speaking with all of your representatives, and feel that you all provide superior customer service."  
 .... Cosmo Canacari, Environmental Scientist  
 Seagull Environmental Technologies  
 Kansas City, MO

"The Direct Image® Workshop was very informative. As always, I appreciate the warm welcome and enthusiasm of Team Geoprobe®. I really enjoyed hearing the project profile presentation from Todd Morgan from S2C2. I appreciate the R&D that Team Geoprobe® places into product lines, such as the DI tooling, and the efforts that go into workshops such as these. It is a benefit to us as contractors to know that Team Geoprobe® is not just a partner for today, but for the future as well."  
 .... Chris Rismiller, CWD, Management Consultant,  
 EnviroCore Ltd, Plain City, OH

# CUSTOMER APPRECIATION DINNER



# WORKSHOP



"Your R&D Department was great! People seem to like to work there. That said a lot to me."  
 ..... Theodore Thompson  
 US Army Corps of Engineers, Kansas City, MO

"My trip to Kansas for the Open House was a great experience. Until now we have never operated Geoprobe® machines. The 6712DT /crane demo was my favorite. From three components to one working machine in just minutes demonstrated the dedication Geoprobe® engineering has to its target consumer. We thought an 8040DT was the machine we needed. But the 7822DT demo showed us that a smaller machine with its versatility and power was all the machine we needed and were looking for. Now we are anxiously awaiting the delivery of our first Geoprobe® machine."  
 ..... Michael D. Johnson, Drilling Services Manager  
 Custom Drilling Services, Mulberry, FL

"It was the best of the best as far as any rig or field equipment demonstration I have ever experienced, and I've sat through many. Everyone did a first rate job. I know that the entire team and management spent countless hours of work and thousands upon thousands of dollars to make the event educational, inspiring and just plain fun. It was, in a single word, outstanding! I did not realize how much of a family business Geoprobe® was until I introduced myself to Harry Kejr (father and grandfather of four of the company's Directors). I saw him walking around, and he reminded me of my much-loved grandfather who passed several years ago. We talked about the history and background of the company, and he shared his family tree with me, both within his family as well as the extended family. Meeting Grandpa Kejr was my most memorable and enjoyable experience of the day!"  
 ..... Richard W. Stock, Jr., President, Stock Drilling, Ida, MI

"I had a great time with you all, and it was well worth the time and money to fly out to Kansas for the event. I very much appreciated talking to the Owners and also to many of the participants from across the globe and around the U.S."  
 ..... David A. Reinsma, PG,  
 President and Principal Geologist,  
 Trinity Source Group, Santa Cruz, CA

"Geoprobe® staff did a great job putting together an informative agenda for, in our case, equipment users. We make it a point to schedule around the Geoprobe® Open House for several reasons: (1) We desire for our clients to have the best tool on the market to perform the field task at hand, and with the introduction of new tools, we want to be on the first bus. (2) The most critical mistake a driller can make is to be closed-minded to change. I enjoy seeing what Team Geoprobe® is working on, and just as important, I enjoy spending time with other drillers from around the globe and share knowledge. The John Deere® ice cream should come with every order! Thanks."  
 ..... Gary Hill, Owner, Walker Hill Environmental,  
 Foxworth, MS

"The 2012 Open House was my third trip to Salina, and my second open house. My particular favorite part of the event, as always, was seeing first hand the prototype and just released rigs, controls and tooling. This year definitely did not disappoint! More 'toys' than I ever thought possible? Check. Warm, Team Geoprobe® hospitality? Check. Seeing old friends? Check. Great food? Check. If there had been snow on the ground, I would have thought it was Christmas!"  
 ..... Chris Rismler, CWD, Management Consultant,  
 EnviroCore Ltd, Plain City, OH

"We almost decided not to come, but we're really glad we're here. It is so good to experience this first hand. There was so much time and effort put into this. We really appreciate what you've done here".  
 ..... Gene Burke, President  
 Ground Zero Field Services, Partlow, VA

"I enjoyed the equipment demos, especially the one where the Geoprobe® guys put a rig together while we watched."  
 ..... Arthur Peterson, Regional Geologist  
 Kansas Dept. of Transportation, Topeka, KS

"All was good as usual. I am always drawn to what I don't know. So watching the sonic rigs was of most interest. We have a 7822DT and I suppose I should have watched the direct push session to see if I could have learned some new tricks, but there was just so much going on that it was hard to be at two places at once. Great job, as always!"  
 ..... Rick Rogers, President  
 Drilling Engineers, Fort Collins, CO

"This was great! Seeing all of the equipment side-by-side and seeing the new 6712DT was great! A lot of money is spent in Canada building ice roads to get to remote places. The 6712DT is a great alternative to avoid the cost of new roads and just use a helicopter to bring a machine in."  
 ..... Josh Ernst, Owner  
 ERNCO, Sylvan Lake, AB, Canada





# 2012 GEOPROBE® OPEN HOUSE DAY 2

Guests had arrived. Machines glistened in the morning sun. Tooling was stacked in racks awaiting trips downhole. BBQ was cooking. Orange shirts were pressed. And the days of demo practice were over. Day 2 of the 2012 Geoprobe® Open House was packed with demonstrations, introductions of new tooling, presentations of new technology, new equipment options, a facilities tour, and much more. "I enjoyed the equipment demos, especially the one where the guys put a rig together while we watched," said Arthur Peterson with KDOT in Topeka, KS. "We had more things to show and demonstrate," said Todd Courbot, Geoprobe® Customer Service, "but we just couldn't squeeze any more into the day!"



# Discovery Drilling in Alaska Takes Their Unique Rig to a Unique Site

In July, Discovery Drilling in Anchorage, AK, working with CH2MHILL, deployed their Geoprobe® 66DT to the island of Shemya, AK. Shemya, home to Eareckson Air Station, is located on the western tip of Alaska's Aleutian Islands, near the larger island of Attu, approximately 1,500 miles southwest of Anchorage. The island has seen its fair share of military activity over the years. From WWII, to The Cold War, to present day, the small (4 miles wide) island of Shemya has been used to support military operations ranging from reconnaissance to refueling missions.

A Compliance Site Investigation was launched to collect subsurface information from soils and groundwater around the island. The focus of the Discovery team's efforts on Shemya Island were areas near abandoned underground and above ground fuel storage tanks. In total, the team conducted environmental soil and groundwater sampling at ten different sites across the island. Each site had between three and six borings, and temporary monitoring wells were installed for groundwater sampling. Due to logistical constraints and challenging drilling locations with limited access, Discovery Drilling's 66DT, a light-weight track-mounted rig, was the perfect candidate for the job.

Subsurface conditions varied greatly across the island. According to DJ Wardwell, (title) for Discovery Drilling, "it was

always a surprise for the driller when advancing the first tool string at a new site. Drilling would often become difficult when very dense soils were encountered, so the GH60 Hammer and 66DT were pushed extremely hard," DJ said. "The rig proved to be a real workhorse, however, and finished the job requiring nothing other than fuel and routine maintenance."

The field team used the MC5 Soil Sampling System to collect continuous 60 in. soil samples throughout the project. Drill depths ranged from 5 ft. to 20 ft., depending on each

site's geology. "Due to the ever-changing soil conditions, we would often switch between MC5 Core Catchers and Spacers to ensure that maximum soil recovery was achieved," DJ said.

The field team used MC5 Core Catchers when encountering loose materials, such as sands, silty sands, and small gravels, to help retain/improve sample recovery. The MC5 Spacer Rings were also used. Spacer Rings provide a direct path for materials, such as clay or compacted materials, to move into the liner when a core catcher is not required to help retain the sample. [Geoprobe Systems® now offers an MC5 Cutting Shoe with an extended back that attaches directly to the liner. No spacer is required.]

"The MC5 Soil Sampling System proved to be an excellent method for soil recovery leaving no cuttings to dispose of and no large borings to backfill," DJ added.

The team's work plan required that a large amount of soil be collected at certain depths, often much more than a full MC5 liner could provide. The driller would often have three, four, or even five adjacent borings going simultaneously in order to provide enough soil redundancy at specific depths for the lab to analyze. Using the rig's mast extension and swing, the driller was able to accomplish this without having to move the rig.

Grab samples were collected when groundwater was encountered. This was accomplished by driving 2.25 in. Mill-Slotted Rods to the required depth and then using a peristaltic pump to recover an adequate amount of groundwater for laboratory analyses.

The Discovery Drilling field team believes the 66DT's versatility, size, and power played a huge role in the overall efficiency and success of the project.

"It was a pleasure to operate such a unique machine in such a unique place," DJ said. "We've been using our 66DT and 6610DT for projects all over Alaska. Their small size allows us to ship them to the most remote locations that Alaska has to offer. Over the last few months, we have deployed them to places like Kotlik, Barrow, Quinhagak, Atmautluak, and many other locations for geotechnical investigations. We have also used them for environmental work in places like Eielson Air Force Base near Fairbanks and on Shemya Island."



Three, four, or even five adjacent borings (five are shown in the foreground) were in process simultaneously in order to provide enough soil redundancy at specific depths for the lab to analyze.



Many of Discovery Drilling's clients specifically request their Geoprobe® rigs because of their small footprint and the ability to access tight spaces.

DJ Wardwell, Assistant Operations Manager for Discovery Drilling in Anchorage, AK, uses a Geoprobe® 66DT to pull soil samples near some abandoned fuel storage tanks at Eareckson Air Station on Shemya Island.

"Our Geoprobe® 66 series machines bring a lot of power to the table relative to their size. We routinely take them to very remote and challenging locations where the rigs and their GH60 hammers are pushed extremely hard. Their versatility, small size and power, combined with the fact that they are self-propelled, make them an obvious choice for projects in remote locations."

... DJ Wardwell, Assistant Operations Manager, Discovery Drilling, Anchorage, AK



(above) DJ Wardwell sets up next to one of many abandoned fuel storage tanks at Eareckson Air Station on Shemya Island. (below) The field team of Mike Rozak, Environmental Technician (seated) and DJ Wardwell, Assistant Operations Manager, collect samples as part of a Compliance Site Investigation on Shemya Island. Ten different sites on the island were the target of the project. The Drilling Team for Discovery Drilling said the 66DT and 6610DT are well suited for work at fueling stations where obstacles and low overheads are common.



The relatively small size of the Geoprobe® 66DT makes it well suited to ship to remote areas of Alaska, such as Kotlik, Barrow, Quinhagak and Atmautluak. Here, soil samples are collected at this site on Shemya Island.

# Vironex Turns to Military Veterans For Future Leaders of Their Company

Machine Gunners. Infantry Personnel. Amphibious Assault Vehicle Commanders. Helicopter Crew Chiefs. Reconnaissance Personnel. Tank Commanders. Artillery Personnel. It's not your typical job experience unless you're a Veteran!

"Our Marine Corps and Air Force veterans are truly making a difference," reports Jose Suarez, for Vironex. "From our inception in 1993 when the first Marine, Todd Hanna, joined Vironex after serving in the Gulf War, we've been actively recruiting veterans from numerous bases across the country. Today, Todd is one of the key leaders in our company serving many roles, including National Director of Operations," he said. "The veterans that we have the honor of calling Vironex employees are decorated service members who have served our country honorably, most of them in combat in military campaigns in the Persian Gulf, Somalia, Iraq and Afghanistan." Jose, who is currently National Contracts Officer for Vironex, was a Helicopter Crew Chief for the Marines while serving in the Persian Gulf and Somalia.

Brendan Gerber, Mid-Atlantic Regional Manager, says he's looking for future leaders for Vironex as the service members complete their duties and prepare to enter the workforce. "The guys that I have in my region help each other," Brendan said. "They don't have to be told to do things. They are self-motivated, manage themselves, and most importantly, they get things done right. The same dynamic is true within every region of our company as well as between all regions across the country."

Alan Livadas, Owner of Vironex, said, "Our veterans bring a brotherhood and fabric to our company that is truly inspiring and humbling."

Once Vironex finds the right people, the training process begins. "Everyone begins as a field technician," Jose said. "We believe it's important that they learn the business from the ground up." It also serves as an opportunity for management to evaluate the natural skills the veterans have. "All of the them have excellent leadership skills," Jose continued. "Combat in Afghanistan and Iraq ... it really takes 'something' to lead others in this type of high-pressure environment. There is nothing that makes us prouder than to have these heroes on our staff," Jose concluded.

The entire company is very proud that Vironex has a lot of veterans on staff. "It's the best of both worlds for all of us," Brendan added. "We also have fantastic civilians at Vironex who are a great complement to the veterans. Working with the civilians gives the veterans the opportunity to find stable employment and get reacclimated in the U.S."

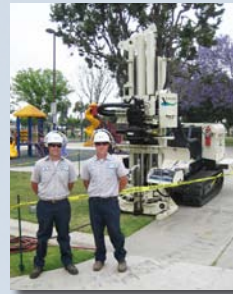
Vironex provides specialized environmental field services to the environmental consulting community known as SEARCH AND DESTROY® which includes high resolution profiling coupled with in-situ remediation, as well as traditional sampling, Membrane Interface Probe (MIP) and Hydraulic Profiling (HPT) services, both nationally and internationally. Vironex has offices in California, Colorado, New Jersey, Maryland, and Delaware.



Todd Hanna, Helicopter Crew Chief, currently National Director of Operations in Santa Ana, CA, and the first Vironex Marine.

"Every day I am proud to be associated with all the men and women of Vironex. Our organization is genuinely fortunate to have many veterans in our ranks whose sacrifices, work ethic, and unyielding integrity are second-to-none. Our vets are a unique and rare breed of individual with an uncompromising commitment of service to others through their actions, not just their words. They bring a brotherhood and fabric to our company that is truly inspiring and humbling."

... Alan Livadas, Owner, Vironex



Two of many Vironex 'civilians', Mike Haske (left) and Shane Thompson are in California with the company's 8040DT on a Search and Destroy mission.



#### Marine Corps Ties ...

Four current Vironex managers served in the Marines as CH-46 Helicopter Crewchiefs at the same Marine Corps Air Station in Tustin, CA. As far back as 1993, these former Marines began leaving the Marine Corps and joining Vironex. Vironex still seeks prior service employees today. They are (left to right): John McAssey, Northern CA Regional Manager; Frank Stolff, National Director of MIP Services; Jose Suarez, National Contracts Officer; and Todd Hanna, National Director of Operations.



(counter clockwise from top) John McAssey with kids, Helicopter Crew Chief, currently Northern California Regional Manager in Concord, CA; Austin Hittinger, Infantry, currently Senior Field Technician in Bowie, MD; Chris Logan on foot patrol, Machine Gunner, currently Certified MIP Technician in Bowie, MD; Jose Suarez, Helicopter Crew Chief, currently National Contracts Officer in Wilmington, DE; and Robert Meyer, Infantry, currently Field Technician in Santa Ana, CA.



(below) Jake Haldiman, Reconnaissance, currently Senior Field Technician in Bowie, MD.



CH46 Sea Knight tandem rotor transport helicopters. The aircrew veterans at Vironex were Crew Chiefs who flew on CH-46s throughout the world and in combat.



Dearal Rodgers, Owner of Elite Techniques, works at one of the many landfills in North and South Carolina.

# Big Time Challenges of Landfills Made Smaller With Elite Techniques' 6620DT

Dearal Rodgers, President and Owner of Elite Techniques Inc. in Camden, SC, says he's been very pleased with the versatility and power of his company's first rig, a Geoprobe® 6620DT. "We've been working closely with Mike Glowacz, Professional Geologist and Senior Hydrogeologist with URS Corporation in Columbia, SC, on numerous landfill compliance projects throughout South Carolina and North Carolina," Dearal explained. "Landfills offer a unique challenge of rugged terrain, a variety of drilling depths, difficult access, multiple contaminant possibilities, and if it rains ... plenty of mud, but our 6620DT is doing great for us!"

According to Dearal, Kershaw County Landfill, in Cassatt, SC, is a prime example of how the 6620DT has met and tracked over all of these challenges.

"In Kershaw County, we've collected Macro-Core soil samples to depths up to 80 ft. below ground surface, installed deep monitoring wells with hollow stem augers to depths up to 65 ft., and installed methane monitoring probes in extremely rugged terrain that would have been virtually unreachable with lesser rigs," Dearal said. The power of the rig and the remote control feature on the track unit has met every landfill challenge the company has faced, "and drilled to depths beyond my imagination," he added.

All landfills in these two southern states are required to monitor their groundwater and methane while in operation and also after closure. Many construction and demolition only landfills accepted municipal waste in the past which produces leachate and methane gas.

Dearal's Geoprobe® operating career began back in 1998. "Back then I ran a shiny new Model 5400 truck unit and was really proud to push 100-150 feet of soil borings in a single day," Dearal said. "Anytime we probed at a landfill, we had to use bulldozers to cut roads for each drilling location. And we also begged those guys to hang around in case we needed someone to pull us out when we got stuck. Typically, after our soil sampling was complete, we would hire an auger rig to come out and install the monitoring wells." Geoprobe® track rigs changed all

"Dearal Rodgers is the most conscientious and dependable driller I have ever worked with, and that says a lot since I've been a groundwater consultant since 1972. He has a good business sense and uses the best quality and cutting-edge technology that Geoprobe Systems® provides. He uses and maintains his Geoprobe® equipment very well which minimizes costly equipment malfunction and breakdown delays. He often proposes alternative techniques that are available from Geoprobe® that can result in cost savings or more accurate data for our clients."

... Mike Glowacz, PG, Senior Hydrogeologist  
URS Corporations, Columbia, SC



that. "Today, we don't need help getting to our sampling locations, we've doubled our daily footage capabilities, and we install our own wells," he said.

The landfill projects span from the costal plain of South Carolina all the way up to mountainous areas of North Carolina.

"Whether we're called out to install wells in flowing sands in Charleston County, SC, or coring samples through weathered rock in Union County, NC," Dearal added, "our 6620DT has the ability to track to where the work is needed with the power to get the job done right!"



The remote control is utilized to maneuver the rig into difficult terrain.



Chas McLaughlin, Environmental Technician for Elite Techniques Inc., pushes a Macro-Core® soil sampler to 65 ft. on a slope hill at the Kershaw County landfill.





# "Ten years ago I knew nothing about scouting!"

Ten years ago, Todd Ewing, Geoprobe® Service, believed scouting was what you did at an auto parts store when your truck broke down. Webelos were never in his vocabulary. So his entry into the scouting world nine years ago was extreme to say the least! As he completes his second year as Scoutmaster for Troop 7 in Salina, Todd is one of three Geoprobe® Dads involved in Boy Scouts.

When Todd met his wife, Jennifer, she was a single mother raising two boys. She was also a Boy Scout den leader hoping to expose her two young sons to positive male role models. After the wedding bells rang it was soon time for summer camp in July. "I was so relieved that I didn't have to go, and I told Todd it would be a good bonding experience for him and Jack," Jennifer remembers. "The joke was on me, however, because now I have a trailer in my yard loaded to the max with camping equipment and a garage I can't park in because of all our scouting items!" The rest is history!

For Todd, and for Dan Pipp, Geoprobe® Chemist, and Troy Bourbon, Geoprobe® Customer Service, also Scout leaders, lots of their 'free' time is spent preparing for Scout meetings and participating in activities.

Troy has lead a Bear den for his son, Cody, and a Tiger Cub den for his youngest son, Chase. "I encourage families to get involved with their Scout's pack for the simple fact that the more people that lend a hand with the local program, the better the experience is for the Scouts," Troy said. "Whether you drive a car load of Scouts to camp or become the pack treasurer, the important thing is that you're giving time to a worthwhile organization."

"Campouts, climbing, pinewood derbies, backpacking, shooting sports, canoeing, tubing at the lake, cooking over a campfire ...



Jack Duffield (back, third from left) with Troop 7 prepare for Santa Fe Days in Salina in full Native American garb. Todd Ewing is in the back row to the left.

I would argue that I'm having as much fun as the kids," Dan Pipp, Geoprobe® Chemist said. "Scouts really helps educate the kids in a wide variety of career opportunities, and develops team building and leadership skills."

"It's pretty neat when we run into one of our den members outside of Scouts and he turns to his friends and says with a smile, 'That's my Scout leader!'" Troy said.



Chase Bourbon practices archery skills.



"I know I can trust him (Todd) as a Dad. Sometimes the scouting activities and requirements are a bit tough, but at the end of every day I still love him and respect him for what he's done to help me."

... Jack Duffield, son of Todd Ewing, Geoprobe® Service



"I really like to get out and go camping with my friends. Scouts is a fun way to develop leadership skills while learning about different careers."

... Zach Pipp, son of Dan Pipp, Geoprobe® Chemist



One of the highlights of the scouting year is attending the annual week-long campout at Camp Geiger near St. Joseph, MO. This summer, 615 Scouts attended the event.



Chase Bourbon (center, pulling wagon) learns the importance of teamwork. Zach Pipp (above), Order of the Arrow, Honor Camper.



"We like the camping best. And we like archery and shooting the BB guns. We really like it that our Dad is a leader. It's fun to go places with our friends and have Dad there too."

... Cody (left) and Chase Bourbon, sons of Troy Bourbon, Geoprobe® Customer Service



Cody Bourbon heads up the Climbing Tower at Camp Brown in Abilene, KS. Boy Scouts can earn their Climbing Merit badges by climbing to the top of the tower (44 ft.) and rappelling back down.



Cody Bourbon (above) races in the Raingutter Regatta. Zach Pipp (above, right) and teammate prepare their project, 'Through the Rubble of Time, the Cross Stands Shining' for Court of Honor night.



Jack Duffield (center, white shirt) and Todd Ewing (seated, right) with Troop 7 hiked to the top of Coronado Heights in Saline County, KS. Troop 7 consists of 27 boys; four will make Eagle this year.



Be Prepared. When Todd heads out for a weekend campout he is surely prepared with his equipment trailer, stocked to the brim with cooking and camping supplies, plus a few of the 'often forgotten' things Scouts leave at home. He's in the process of building a cart for firewood that will anchor to the floor of the trailer.

## Team Geoprobe® Eagle Scouts

During their 'early' years, Team Geoprobe® was well represented in the Boy Scout and Girl Scout organizations. We're especially proud of our five Eagle Scouts and the commitment they made to reach this achievement. They are: Dan Kelley (Packaging), Greg Johnson (International Sales), Greg Scott (Machining), Jed Davis (Engineering), and Steven Colgrove (Direct Image®).



Dan Kelley, 1967, with his sash and ceremony program.



Greg Johnson, 1971



Greg Scott, 1973, with parents, Howard and Vernita Scott.



Steven Colgrove, 2009

On my honor I will do my best to do my duty to God and my country and to obey the Scout Law; To help other people at all times; To keep myself physically strong, mentally awake, and morally straight.

.... Scout Oath (or Promise)



Jed Davis (with sash) in 1999. Jed's Dad, Jim, and three brothers, Jeff, James, and Joe, were all Eagle Scouts from Troop 155 in Great Bend, KS.

# Two New Hose Kits Designed To Extend Life of Your Rig

The Geoprobe® Service Resource Center announces the availability of a Hose Carrier Kit and Hammer Line Kit for 66 and 77 Series Machines.

Hose failure can stop any rig in its tracks. With changing weather conditions, long work days, and the nearly constant vibration of the hammer, hydraulic lines can sure take a beating. The guys in the Geoprobe® Service Resource Center are constantly looking for ways to improve the life expectancy of our systems. As with all hydraulic systems, failures are a reality, so Team Geoprobe® strives to find the best, most economical repair methods to get your rig back in the field as quickly, and safely, as possible.

## Hose Carrier Kit

Most hydraulic lines fail because of old age. Hose carriers on Geoprobe® 66 and 77 series machines is a prime example of rigs having hoses that need changed at the same time. Constant motion in the hose carrier and added exposure to the elements breaks hoses down over time.

As the hoses in the carrier wear, often times the carrier itself will break down. The Geoprobe® Service Team now offers a Hose Carrier Kit, a convenient time and cost saving solution for companies wanting to spruce up their older machine. The winter months are a great time to get some preventative maintenance done after those long, summer work days.

All of the hoses and fittings required for replacing the hose carrier come pre-assembled, including the hose carrier bracket. When the package arrives, someone with a basic set of end wrenches and a hoist or lift (or a second person) can mount the new hose carrier in just a few hours.

The new hose carrier kit also functions as an update for some older machines that are still operating with an older model hose carrier. This model has better end clamps and is wider, allowing the service team to include two new auxiliary lines for a drop hammer.

One phone call to 1-800-436-7762 will start the process to get your fully assembled hose carrier kit on its way. Customers should allow a week for processing the kit.



Geoprobe® Hose Carrier Kit



(above) Roman Burrows, Geoprobe® Service Specialist, feeds replacement hoses in the new Hose Carrier Kit for a 6620DT through an opening to the control panel. (left) All hoses in the Hose Carrier Kit are cut the correct length easily connect to Valve Body on the back of the control panel.

"When I get into those hose carriers, I'm always concerned I'm going to break them even more! For our rig I had to change all of the auger lines and hammer lines. It was just easier and faster to have you guys put the kit together for us. It just makes so much more sense to replace the whole thing on older machines."

Michael Waquespack, Maintenance Manager  
Enviro Depot Inc., Baton Rouge, LA



To prevent the hammer lines from sliding down through the hose carrier, the new Hammer Lines Kit splits the hammer lines into two pieces.

## Hammer Lines Kit

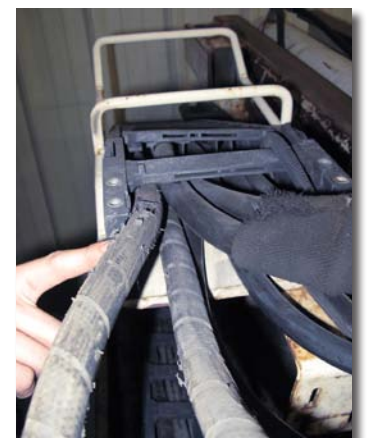
A new maintenance kit is now available for the heart of your Geoprobe® rig, the hammer. Since the two main hydraulic hoses going to and from the hammer are subject to the most vibration and pressure change, they can be a trouble spot on any unit. These hoses slip down in the hose clamps and rub on the bottom of the hose carrier, causing them to wear through the metal wire and fail.

The new Hammer Lines Kit splits the hammer lines into two pieces which helps prevent them from sliding down through the hose carrier. These new lines fit any 66 or 77 series units that have a hose carrier. And there's more good news! Even though the new kit involves running four hoses instead of the original two, the new hoses in the kit are the same price as the old, single-piece lines.

The average hammer line change takes around an hour and can be done with a basic set of end wrenches. The largest wrench needed is 1.25 in. Ordering your Hammer Lines Kit is easy. You'll just need to know what machine you have and whether your rig has male or female steel lines. As usual, the Service Team is happy to guide you through the process if needed.



Hammer Lines Kits  
42863 - 7720/30 series with male steel lines  
42866 - 7720/30 series with female steel lines  
42833 - 6610/20 - series with male steel lines  
40439 - 6610/20 series with female steel lines



Exposed to the most vibration and pressure changes, these worn hydraulic hammer lines on an older Geoprobe® machine need to be replaced.

## New Geoprobe® Source Book Available



It's THE place to go for a listing and explanation of tooling available for your Geoprobe® rig.

Part Numbers. Descriptions. Sizes.

It's a Geoprobe® Customer's closest friend!

Request your copy online, at [www.geoprobe.com](http://www.geoprobe.com), or call 1-800-436-7762 to request your copy.



(l to r) Darren Stanley, Brian Rogers, Todd Ewing, Bryan Lorensen, Roman Burrows

**Geoprobe® Service Resource Center**

• Machine Refurbish • Machine Maintenance • Field Support

# Geoprobe® Kids of Summer

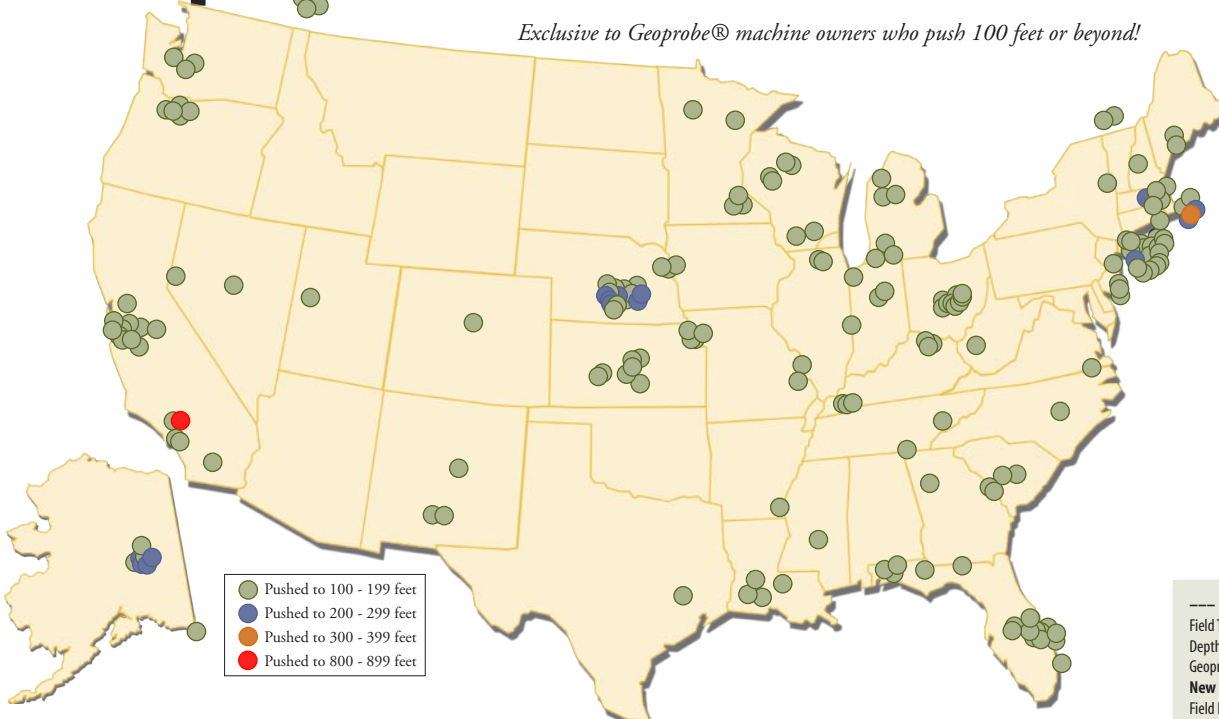
It was an historically hot summer in Kansas, but the Geoprobe® Kids of Summer still enjoyed an evening picnic and dip in the lake at the Geoprobe® family picnic in July. Can you tell there's lots going on in those little minds? "This little light of mine, I'm gonna let it shine!"



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## Geoprobe® "100" Club

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



**106** feet  
SUBADRA – UK

FIELD NOTES  
Field Team: Tom Petzing  
Depth/Date: 106 feet / Aug 16, 2012  
Geoprobe® Owner: SUBADRA, East Sussex, UK  
Field Data: Model 5410



**113** feet  
Terratest – AU

FIELD NOTES  
Field Team: (to) Joel Campbell and Darryl Stewart  
Depth/Date: 113 feet / Aug 9, 2012  
Geoprobe® Owner: Terratest Newcastle, New South Wales, AU  
Field Data: Model 7822DT. Combination of MCS sampling and using a PCD bit.

# GEOPROBE<sup>®</sup> SONIC

- Solid Steel Casing (no welded joints)
- Exclusive Dual Tube Systems ... DT45 and DT60
- For Use With ALL Sonic Machines
- For Traditional Sonic Drilling Methods  
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## Geoprobe<sup>®</sup> Sonic Casing Sizes

• 10 in. • 8 in. • 6 in. • 4.5 in. • 3.5 in.

Geoprobe<sup>®</sup> Sonic Casing is designed with conventional sonic sampling in mind. When telescoping one casing over another, such as 4x6 sampling, each incremental casing is sized with precise bit clearances and annular spacing to prevent the tooling from locking up and to eliminate excessive water use to flush the soil between the casings.



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