



PROBING TIMES

Information for the ENVIRONMENTAL, GEOTECHNICAL, GEOTHERMAL & EXPLORATION Industries

7822DT Early Responder for Geotechnical and Environmental Sampling



A Geoprobe® 7822DT, owned by Strata Drilling Group in Richmond Hill, Ontario (Canada), was early on scene for a train derailment on March 7, 2015, north of Gogama in northern Ontario. The 94-car CN locomotive carrying crude oil crossed a bridge when 38 cars derailed with five cars plunging into the river. Mike Brown, Operations Manager for Strata Drilling, received a call early that morning, requesting that a rig be sent to the site. Scott Reid, Driller for Strata Drilling, gathered supplies and left with their 7822DT to collect environmental and geotechnical data. DPT work was completed around the site providing geotechnical data for the building of a diversion track as well as environmental sampling down to bedrock (25 ft.) to find the extent of impact.

New Paint Always Draws a Crowd

"The AEAC crew has performed direct push, rock coring, augering, drive and wash casing work, and geotech SPT sampling with the 3230DT, and it has performed beyond expectations at all tasks. Our client base is extremely impressed with the innovative tooling, production, speed and safety features of the new rig."

Dirk Barry • General Manager
American Environmental Assessment Corp • Hartford, CT



First Job. The AEAC Field Team took advantage of the adjustability of the hose pump and water swivel on the 3230DT to core through 20-in. thick concrete (above) flooring inside an aerospace metal recycling facility (left).

New paint. So it was no surprise that the arrival of a new Geoprobe® 3230DT Combo Rig at the American Environmental Assessment Corp. facility in Hartford, CT, in late fall had the guys pumped! They were the first in the area to welcome the newest machine model from Geoprobe Systems®. After a few hours of orientation and training, and a celebratory barbeque lunch from Bears, the 'fun' was about to begin!

According to Dirk Barry, AEAC General Manager, the rig's first project required coring twenty 10-in. diameter holes through 12-in. thick, rebar-reinforced concrete to pre-clear drilling locations for potential utilities. "The client, a major oil company, thought the rotational guard on the rig was a real safety feature," Barry said. The drilling crew liked the ability to set the rotational speed to the core bore. "Ideal rotational speed of 318 rpm provides the best cutting speed," Barry added, "and adds to the life of the bit."

No cuttings pleases client. Then it was on to a large aerospace metal recycling facility (above) to core through a 20-in. thick concrete floor where the rig and crew were surrounded by "mountains" of titanium and nickel shavings. "The 3230DT muscled right through the concrete," Barry explained. "The hose pump worked great. The guys liked how it could be dialed down to allow just the right flow of water for cooling the core bit. We then drove 4.5-in. tooling to 20 feet with an expendable point and installed, 2-in. monitoring wells. The client really appreciated the fact that no soil cuttings were generated on the shop floor."

"The more we used the rig the more we realized how powerful it was," Barry continued. The AEAC Field Team used the 3230DT to abandon an old 10-in. diameter, turbine, shaft-driven production well. The work required that the pump motor and 4-in. diameter impeller shaft be removed from the 10-in. well. The impeller extended to 110 ft. below grade. "The 5,000 lb. capacity winch and 20-ft. mast were helpful in pulling the pump motor and tripping out the impeller shaft," Barry explained. "Even the breakout table was extremely helpful in holding the shaft as each section was cut."



Delivery Day. Victor Rotonda (left), Geoprobe® Mid-Atlantic Sales, led the 3230DT orientation and training day for the AEAC field team: (l to r) Troy Langer, Envr. Tech.; Joey Sbano, Envr. Tech.; Dirk Barry, General Manager; Chris McKinney, Master Driller; Pete Classen, Operations Manager; and Bob Beeman, Sr. Systems Tech.

WELL ABANDONMENT



Production well vault - pre-abandonment.



3230DT pulling well shaft.



Rigging top of discharge head.



Pump turbine shafts after removal.



3230DT **Combination Drill Rig from Geoprobe®**

EnviroTek Environmental & Construction Services in Tampa, FL, wanted to attract more mining clients. Their new 3230DT Combo Rig has done just that. The high-torque and high-speed rotary range of the 4-speed combo head has opened doors to all kinds of field tasks for them. "The CB6 combo head (patented) puts a lot of power into hollow stem augers," said Fred McKay, PG, Drilling Division Manager for EnviroTek, "and it has the control and finesse to run high-speed wireline tools." When you add in a powerful GH70 hammer and the ability to quickly switch between tasks, you have versatility with ease. Call Geoprobe Systems® to find out how the 3230DT can help you bid a larger variety of jobs, reduce driller fatigue, and increase field production. 1-800-436-7762. or check out our new video (see below).

EnviroTek in Tampa, FL, purchased the 3230DT so they could expand their drilling and CPT capabilities to support the needs of their mining clients. The added power (torque, downforce), dual winches, and telescoping mast have greatly increased their field performance and efficiency.

"The movable control panel and safety components make working conditions more convenient and safer for our crews. We, and our clients, are very impressed with the 3230DT. The performance is amazing."

Fred McKay, PG • Drilling Division Manager
EnviroTek • Tampa, FL



- **Geoprobe® CB6, 4-Function Combo Head**
Direct Push Hammer. Rotation. Head Clamp. Auto Drop Hammer.
- **Multi-Function Drill Mast**
80,000 lb. Retraction Force and 84 in. of Travel.
- **Drill Mast Outriggers**
Keeps mast steady during rotary work.
- **Dual Winch with Telescoping Mast**
Allows for tripping out 20-ft. sections of tooling.
- **Mid-Sized Platform with Added Power**
99 hp diesel engine for geotechnical rotary work.

Direct Push Solid. Rotary Strong.

The EnviroTek crew was pleasantly surprised to find out that their next drilling location was on a farm next to one of the local strawberry fields. According to McKay, it was at the height of strawberry season and the berries were huge, and sweet as candy. "Good thing we had to keep moving or we all would have put on a couple of pounds," he said.

THE 3230DT COMBO RIG
WATCH THE VIDEO ▶

geoprobe.com/videos/3230dt-combo-rig-video



Enviro-Dynamics takes their 6712DT inside an 8-ft. high garage after a low-clearance cylinder was added to install a 1-in. diameter permanent monitoring well. Their working clearance was less than 2 inches, but the project was completed without damaging the ceiling of the garage.



6712DT Low-Clearance Cylinder Addition “Valuable Modification” for Enviro-Dynamics

Rob Mores, Owner of Enviro-Dynamics in Hebron, IN, ushered in 2014 with the delivery of a new 6712DT to replace his trusted 6610DT. Although the new machine is slightly wider, according to Mores, the rear blade helps provide a more stable base for angled probing. “It’s much easier to maintain,” he stated, “due to easy access to the engine, hydraulics and other components, The control panel is primarily comprised of hydraulic controls with very few electronic switches, and the two-speed auger motor has more power than the 6610DT.”

The 6712DT allows Enviro-Dynamics to do everything they could do for their customers with the 6610DT and more, which includes standard probing, shallow monitoring well installations using hollow-stem augers, and advancing angled probe rods.

Early last fall, Mores brought the 6712DT back to the Geoprobe® Service Center in Salina for a quick installation of a low-clearance cylinder. “That proved to be a valuable modification” he said. “I left Salina when the installation was complete at about 2:00 pm on a Wednesday. I arrived home in Indiana at 1:00 am on Thursday, then drove to Michigan for a 9:00 am start that same day!” Mores explained. “So basically, the new cylinder was working in Michigan less than 24 hours after it left Geoprobe® Service.”



Rob Mores drives the 6712DT into a residential garage with a 7-ft. overhead door clearance.

According to Mores, the low-clearance cylinder was key for the Michigan work. He installed a 1-in. diameter permanent monitoring well with 4-ft. rods inside a residential garage that had a standard 7-ft. clearance garage door, and a slightly higher 8-ft dry-wall ceiling. “We were working with a ceiling clearance of less than two inches,” Mores said. “It was quite a challenge.” Not only was the client watching, but so was the homeowner and a Michigan DEQ representative. “I’m proud to say everyone was impressed. When the work was completed there was no damage or holes in the ceiling. It was a

great feeling knowing that we were able to make quick use of the low-clearance modification.”

The 6712DT was also used to install shallow, 4-in. diameter soil vapor extraction (SVE) wells inside a facility with 9.5- to 10-ft. ceilings. The project was bid before the low-clearance cylinder was installed. The original plan included working with the standard probe cylinder and having 2-ft long augers fabricated specifically for this project. “The cost to have the augers made was going to be between \$2,000-\$2,500,” Mores recalled. “By using our modified 6712DT, we were able to use standard 5-ft. long, 6.25-in. ID hollow stem augers.”

In addition to using their 6712DT specifically for low-clearance applications, Enviro-Dynamics has found that it’s been an overall benefit on many projects due to working under overhead lines and obstacles. It’s also been safer to use for Mores and his Field Team because the probe cylinder does not travel as high so they aren’t required to raise the overhead mast/winch as high.

Tobin Mielenz (left) and Rob Mores with Enviro-Dynamics, use a 6712DT to install a 1-in. diameter micro-pore sparge well to approximately 40 ft. at a 45-degree angle boring through an existing subsurface vault.

The 6712DT is set up inside a building with approximately a 9.5-ft. overhead clearance prior to drilling a 4-in. diameter SVE well using standard 5-ft. long, 6.25-in. ID hollow stem augers.





The Discovery Drilling drill crew is treated to a nice day while drilling with the 6712DT in remote northern Alaska.

“We’ve sure been busy.”

Drilling in the Alaskan wilderness is not for the faint of heart. Limited accessibility. Remote sites. Temperature extremes. But Discovery Drilling in Anchorage is using three of their Geoprobe® machines to face the situations head-on and overcome the obstacles with great results. The following is a recap of Geoprobe® fleet performance written by DJ Wardwell, Operations Manager for Discovery Drilling.

We’re sure busy here at Discovery Drilling, in spite of the logistically challenging projects we have scattered around Alaska. We realized early on that we had to think smart when planning our work, and to make sure we had the right equipment when and where we needed it. Sending large drilling platforms to secluded sites, which are only accessible by air (many have no overland access), for a handful of 10- or 15-ft. soil borings was wasteful. Our Geoprobe® 54LT was the solution to this. It fits in smaller aircraft, is self-propelled, and has enough power to provide quality MC5 soil samples at shallow depths. It has saved our clients a lot of money, and saved us a lot of logistical headaches.

6712DT Does Not Disappoint

When the 6712DT was introduced, we instantly saw its potential. Our older 66DT and 6610DT had certainly made their rounds over

this vast state, but they were just a little too big to fit in the smaller aircraft that we use to fly our equipment into remote Alaskan communities. We had to strip the feet from the tower, along with the augerhead, winch mast, and percussion hammer, in order for the machine to fit in the aircraft. Continually disconnecting and reassembling the parts added wear to the equipment, not to men-



They’ve also completed some pretty impressive drilling feats with the 6712DT. They’ve advanced multiple boreholes to 100 feet through ice-rich frozen gravels using 3.25 in. hollow stem augers in northern Alaska. They’ve set a groundwater monitoring well to 75 feet using 4.25 in. hollow stem augers in southern Alaska. They keep pushing it to new limits, and it has yet to fail us.

tion the added stress it placed on the drill crew. I have first-hand experience putting a drill rig together when it was -10F and the wind was howling at 30 mph. It’s a less-than-fun experience! Because the 6712DT was designed to ‘de-construct’ into three separate components, we saw it as the solution.

We’ve added a winch to the rear of the 6712DT and constructed a ‘sled’ for the tower component. We basically separate the tower from the rest of the machine and attach the sled to the back of the tower when it is still upright. We then use the winch and 6712DT power unit to lay the tower on its back while it rests on the sled. This allows the tower to be easily pulled in and out of the aircraft for transport. When it arrives at the job site, the 6712DT power unit simply stands its own tower upright again. Two bolts and a few quick connects later and we’re ready to drill. Our drillers, clients, and even the air logistic companies love it.

Geoprobe® Heli-portability Another Plus

What has really made the 6712DT shine is its ability to be picked and placed with a helicopter. I’ve gotten a lot of free helicopter rides over the last couple of years thanks to the 6712DT! It seems like

comments from ...
DJ Wardwell • Operations Manager
 Discovery Drilling • Anchorage, AK

the more our clients find out that we have a very capable drill rig that is self-propelled, equipped with a powerful percussion hammer, augerhead, and auto drop hammer ... and is also heli-portable ... the more use it gets. It’s been flying around all over the state!

2014 Geoprobe® Open House

Last year, I attended the Geoprobe® Open House. It was awesome! And it was great sharing war stories with drillers from all over the world. The one thing that was apparent after talking to them was that we needed a 7822DT. Everyone spoke very highly of it, and the general consensus was that ‘if you don’t have one, you need one’.

Our 7822DT was delivered a couple months later! We get a lot of work that requires a track-mounted drill, much of which exceeds the reasonable capacity of our smaller Geoprobe® rigs. With the



Discovery drillers love the 7822DT. They think it’s actually spoiled some of them! It has plenty of stroke, power, and amenities, like the oscillating tower, which just makes life easier. They’ve also added the expansion kit to our auto drop hammer to accommodate a 340 lb. slug to drive 3-in. split spoons, which are frequently used for geotechnical projects in Alaska.

7822DT, we no longer send out large drill rigs which require a large truck and trailer for transport plus a CDL for the truck driver. In certain situations, the larger rig would also require a substantial amount of tree clearing. We mobilize the 7822DT with a 1-ton truck and small trailer. It has enough power to accomplish the more challenging jobs, and it moves through the underbrush with ease.

We’ve been keeping the rig busy in the field, and it has already proven to be a great purchase. We’re excited to see what applications we can use it for in the future.



With so many remote communities in Alaska, cell phone towers are a big deal and are being constructed on mountain tops all over the state to provide communications to those living in secluded areas. Working with Remote Site Services Inc. (RSSI) we used the 54LT to efficiently install foundation anchors for the towers. A Bell 204 helicopter placed the 54LT on a mountain near Seldovia, AK, and they used tooling to advance 16 holes into bedrock at depths ranging between 9- and 15-ft. deep. These holes were used to cement in anchors for the towers. Using a button-bit and introducing air into the toolstring, we easily blasted through the bedrock. An adjustable valve on the GH42 Hammer, that allows you to control the rotation-to-percussion ratio, was key. As they adjusted the valve the drill bit would slowly rotate while the hammer provided continuous percussion. It worked phenomenally! According to Wardwell, the bedrock seemed to melt away.



Derek Dell, Driller for Discovery Drilling, advances 3.25-in. hollow stem augers using the GA2500 auger on the 6712DT.



Jarath Kantor (left) and DJ Wardwell encountered an exceptionally filthy day. Here they were crossing a makeshift bridge with the 7822DT after walking the rig almost 4 miles that day.



Weighted Wireline System for Sonic Applications

Designed to complement the Sonic Dual Tube 4.5 in. (SDT45) system for sonic applications, the new SDT45 Weighted Wireline (WW) system from Geoprobe® adds yet another innovative tool to the Geoprobe® sonic tool box.

While conventional wireline systems with various latching mechanisms have proven themselves in the coring world, their adaptation to sonic applications has not been without its challenges.

Jed Davis, lead engineer for the new system, said that conventional wireline systems utilize a mechanical latch to hold a core barrel in place inside of the core rod at the bottom of the tool string. "The tool string (core barrel and core rod) is advanced through the sampling interval," Davis explained. "A release tool (overshot) is then lowered down to release the mechanical latch so the core barrel can be retracted."

The 'secret' behind the SDT45 Weighted Wireline design is ... Mass. The core barrel uses a simple

weight system to hold it in place at the bottom of the tool string rather than a mechanical latch. In other words, the latching mechanism is replaced by a weight system.

Davis explained: "The weight system is modular in design and is comprised of 150 lb. weight segments that can be coupled together depending on sampling conditions. In most cases two, 150 lb. weight segments are sufficient to sample consolidated formations," he said.

According to Davis, one critical design feature of this system is the adaptation of the modular weight system to the Geoprobe® rod handler. "Once the weight system is initially put into the tool string, it's not handled by us again until **after** the last sample has been retrieved from the borehole," he said. **During every sample extraction at ground surface, the weight system is easily handled by the rod handler and never by the driller or driller's helper.** "Coming from someone who spends their days outside working with tools, that's a great thing!" Davis added.

The SDT45 Weighted Wireline system is designed to complement the standard SDT45 tooling.

Davis recommends using standard SDT45 tooling with 2.25-in. center rods in softer, shallower formations. When deeper intervals (50 feet plus) or consolidated formations are encountered, "the weighted wireline system can easily be implemented without pulling the casing," Davis added.

The SDT45 and SDT60 (Sonic Dual Tube 6.0 in.) and the new SDT45 Weighted Wireline system are designed by and available exclusively through Geoprobe Systems®, and can be used under most sonic rigs.

The 8150LS rod loader raises the modular weight assembly into place before it is deployed with the SDT45 Sample Sheath.

Joel Christy (left) and Jed Davis, Geoprobe® Tools Engineers, extract an SDT45 soil sample from the sample sheath after it was collected with the Weighted Wireline system.

Jed Davis
Geoprobe® Tools Engineer



(above) The modular weight assembly, with the overshot 'spear' visible inside the weight drive head, prior to being lowered downhole. The modular weight assembly consists of two, 150-lb. weight segments coupled together and a threaded head and overshot spear.

(below) An SDT45 soil core is shown collected from 100 to 110 feet with the Weighted Wireline system. Notice the thin seam of gypsum between layers of red and gray shale.



(right) A wireline overshot is released from the modular weight assembly during the sample collection process. The use of the winchline for retrieving sample sheaths reduces 'trip in' and 'trip out' times significantly.



Genuine Geoprobe® Tooling is Only Available from Geoprobe Systems®



“The machines were impressive!”

Jim Ulrich, Expo Attendee • Kleinfelder
Hamilton, NJ

Count on Geoprobe® Sonic for:

- Mid-Sized and Full-Sized Sonic Rigs
- Comprehensive Training Solutions
- Service Support Equipped to Help
- Engineering Team Focused on New Technology
- In-stock Comprehensive Tools Lineup



Geoprobe® 2015 Sonic Demo Days coming in May and September! Details on page 20.

GEOPROBE® SONIC DRILLING EXPO
2014 • NEW JERSEY



IDEA Drilling crew members use an 8140LS Sonic equipped with an auto drop hammer to collect SDT45 (sonic dual tube) core samples for the Minnesota Department of Transportation.

Bridge Over Rubbled Water

Minnesota Department of Transportation determines 1,150-ft. long, 220-ft. high structure will be used for highway relocation over Rouchleau Pit, an abandoned open-pit mine near Virginia, MN.

The water-filled Rouchleau Pit near Virginia, MN, is in the spotlight because of a proposed highway plan that relocates US Highway 53 over the mine pit which has now filled with water from groundwater seepage and rainfall. The pit is 250 ft. deep in some places. Tests show the bottom of the Rouchleau Pit, which was back-filled with mine waste, contains rocks that vary in size from small pebbles to the size of Volkswagens. The rubble ranges from 40 to 140 ft. thick.

IDEA Drilling, in Virginia, MN, used an 8140LS Sonic, working from a barge on the water's surface, to collect core samples of the rubble. Because the bottom of the pit is neither uniform nor stable, the tests were needed to help determine if the rubble is stable enough to hold the massive bridge foundations needed to support the four-lane expressway.

"This tailings pit contained some of the hardest drilling I have ever encountered," said Joel Christy, Geoprobe® Sonic Operator. "They used 6-in. conductor casing and ran 10-ft. core runs using SDT45 (sonic dual tube) to collect the samples," Christy reported after a site visit. "I was concerned about the toll the tough formation was going to take on our tools, but the IDEA drillers, who had experience in this material, said

the tool system had exceeded their expectations. Even the onsite geologist was impressed with our equipment!"

The highway has to be rerouted because of a codicil in a 1960 agreement between owners of the mineral rights under the highway and the state. The deal allowed the state to build the highway, but also gave the owners the right to remove the highway with seven years' advance notice. In 2010, Cliffs Natural Resources and holders of the mineral rights, decided to expand the Thunderbird Mine that provides taconite iron ore. If the taconite plant is to remain open, it needs access to the ore that now lies beneath the highway.



Joel Christy
Geoprobe® Machine Engineer



Aerial view of Rouchleau Pit in Virginia, MN, proposed site of a new bridge carrying US Highway 53 for rerouting the highway. IDEA Drilling used an 8140LS Sonic rig (on upper barge) to collect core samples. The 8140LS, because of its compact footprint, was able to work from a smaller barge than another rig used onsite. (online News Tribune file photo)



Rendered engineering photo showing proposed US Highway 53 bridge across the Rouchleau Mine pit in Virginia, MN. (Photo credit: MNDOT)



Kyle Riedel, Lead Engineer for the DT60 system, works at the controls of a 3230DT while 6.0 in. casing is driven in the early stages of sample collection. DT60 tooling was designed specifically to withstand the additional percussion force of the 3230DT and 8040DT rigs.

DT60: Economical System for Direct Push 6-in. Cased Borehole

- Use with 3230DT and 8040DT Rigs
- 6.0 in. OD Casing
- Collects 4.0 in. Diameter Continuous Cores
- Use to Install 2.0 in. Monitoring Wells
- Split Sheath (patent pending)
- Layflat Liner System (patent pending)
- Use With or Without Liner

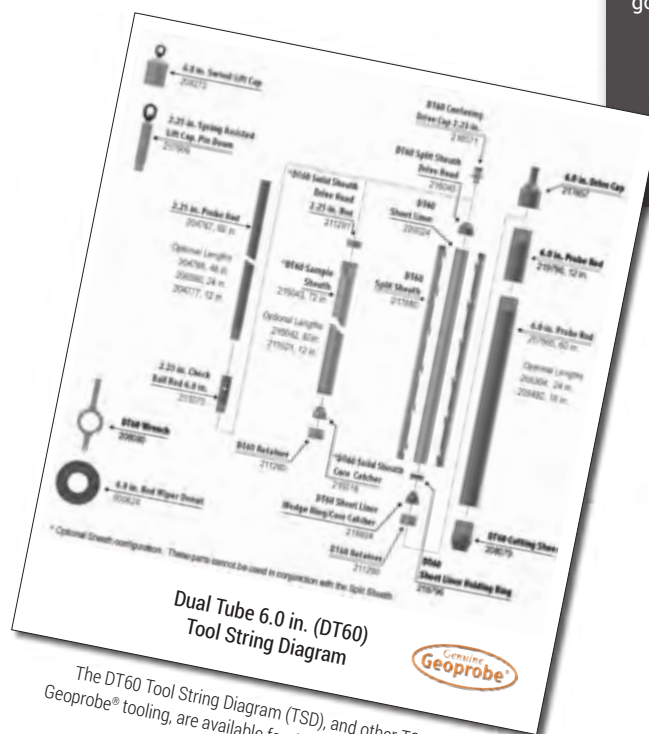
Genuine Geoprobe® Tooling is Only Available from Geoprobe Systems®



A new and innovative optional liner system for the DT60 decreases operating and shipping costs. Conventional liners are shipped in extremely large boxes. One hundred feet of DT60 liners comes in a box not much larger than a small microwave. Plus the liners can be re-used (when permitted), and they are easily recycled.

“The large core size of the DT60 required us to develop new ways to contain and access the sample in order to keep the system both economical and efficient. To achieve the project goals, we had to think differently than with previous dual tube systems. The end result is a unique sampling system with some innovative features.”

**Kyle Riedel • Tools Engineering Team
Geoprobe Systems®**



The DT60 Tool String Diagram (TSD), and other TSDs for Geoprobe® tooling, are available for download at geoprobe.com.



Kyle Riedel
Geoprobe® Tools Engineer

Unlike most other sampling systems, the DT60 uses a split sheath (patent pending) which gives the user the option of not using a liner. Above, the top portion of the split sheath opens up exposing the filled, new style, layflat liner

Former Dry Cleaners Site Impacts CA Water Front Park

The City of Monterey, CA, has envisioned providing public access to the City's waterfront by acquiring open space since the creation of the City's Master Plan in 1939. One of those efforts is the Window on the Bay waterfront park project, which prompted the city to purchase a former dry cleaning facility that had operated nearly 80 years.

The facility used both Stoddard solvent and tetrachloroethene (PCE). PCE was discovered in 1986 during excavation of a water main near the north end of the site. Subsequent investigations identified a residual groundwater plume of chlorinated volatile organic compound (CVOC), and Stoddard solvent, both originating at the site. These impacts have migrated to adjacent parcels which are also part of the Window on the Bay waterfront park.

On behalf of the City, Trinity Source Group, an environmental consultant in Santa Cruz, CA, evaluated the existing site data in order to prepare a Remedial Action Plan (RAP). Based on historical groundwater data, intrinsic reductive dechlorination has been occurring to a significant degree at the site. Trinity's proposed remedial action is to supplement the existing intrinsic biodegradation, using enhanced reductive dechlorination (ERD) to address remaining source area mass reduction in the aquifer underlying the site.

Trinity's review of the site data identified data gaps that needed to be addressed prior to completion of the remedial design, which included:

- Utility lines through the plume area may present preferential pathways for contaminant migration, including the main sewer lateral from the former dry cleaners.
- The vertical distribution and concentrations of contaminants in the saturated zone.
- The current areal extent of the plume in the vicinities of monitoring wells MW-6 and MW-7 were not defined.
- Lack of information regarding local aquifer characteristics.

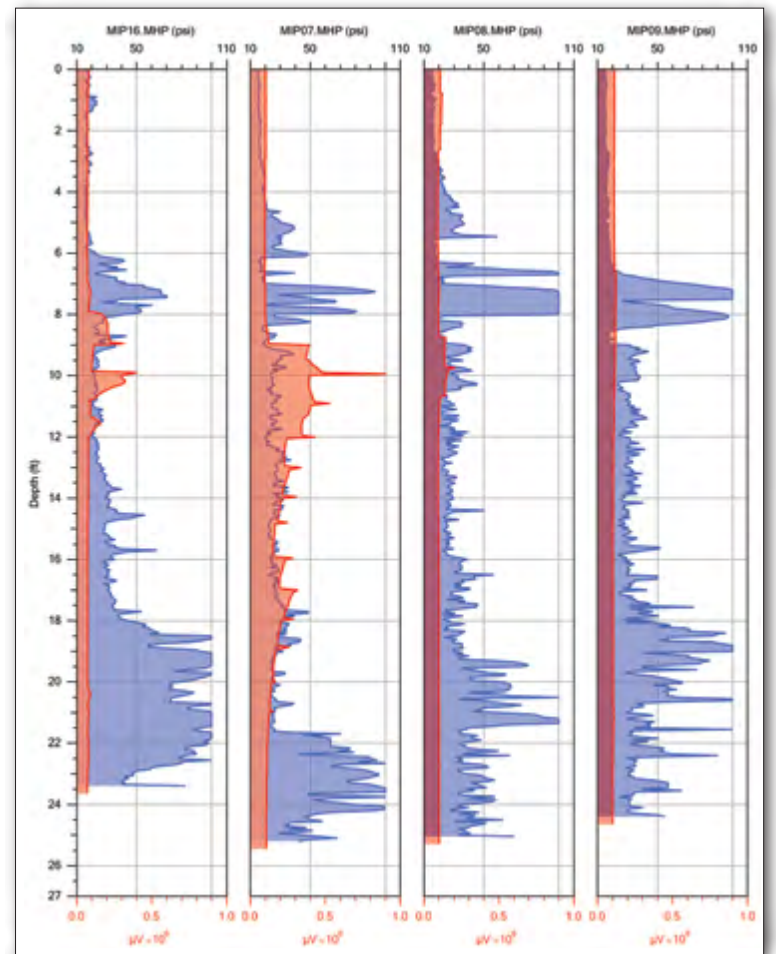
The Geoprobe® Direct Image® MiHpt system was selected to profile the current three dimensional extent of the plume. Subsequently, direct push borings were used to collect soil and grab groundwater samples in order to confirm MIP results inside and outside the CVOC plume. Boring locations were determined in the field based on a review of the MiHpt field results.

Trinity teamed with Environmental Control Associates (ECA) of Santa Cruz, CA (drilling contractor), and ASC Tech Services (ASC) of Rancho Cordova, CA (Direct Image® service provider) to complete MiHpt pushes and subsequent soil and groundwater sampling.

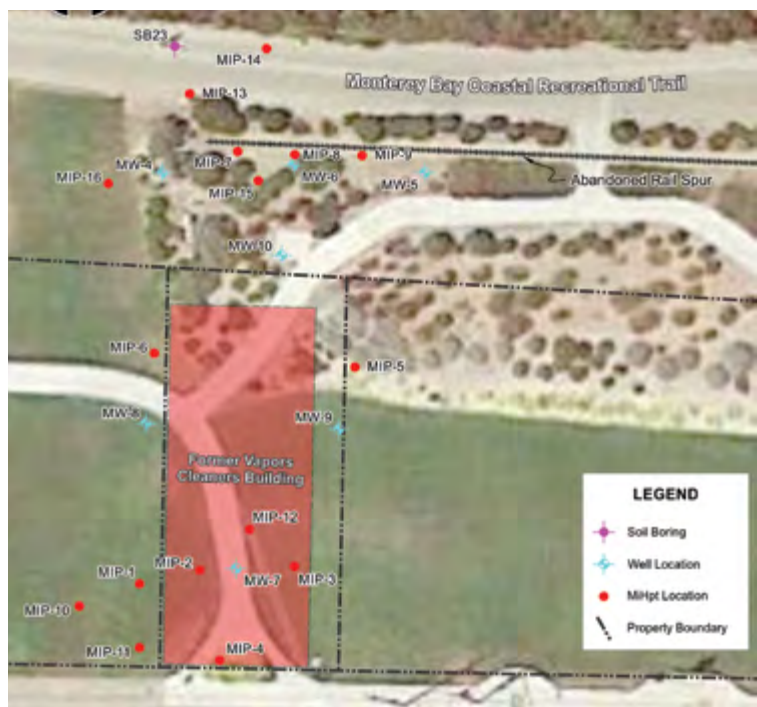
According to Eric Garcia, President and Principal Geologist for ASC, after the MiHpt logs were run and reviewed, the MIP data did not show evidence for CVOC impacts in the unsaturated zone. "We found evidence for CVOCs in the saturated zone across some depth intervals in several of the MiHpt locations, expressed as elevated XSD



One MiHpt location (MIP-14) was within the active Monterey Bay Coastal Recreational Trail. Jeff Edmonds, with ECA, operates a Geoprobe® 54LT at this location in order to minimize the impact to the trail and its users.



This cross section of MiHpt logs from Monterey, CA, located just south of the Monterey Bay Coastal Recreation Trail (see map lower left) shows the HPT pressure graph (blue) overlaid by the MIP-XSD response (red). Most of the CVOC contamination extends from 8 to 12 feet in this cross section of logs and is seen in logs MIP-16, 07 and 08 (left to right) with MIP-07 showing the highest impacts. These impacts are present in the higher permeability soils (lower HPT pressure) just below a high HPT pressure zone (low permeability) of the site. MIP-09 (on right) shows little to no MIP-XSD impacts indicating that the eastern extent of the plume may have been reached in this area.



A total of 16 MiHpt locations were completed at the site. MiHpt locations MIP-1 through MIP-4, MIP-10, MIP-11, and MIP-12 were located in the general vicinity of Well MW-7 and the abandoned sanitary sewer line extending south from the former building location to Del Monte Avenue. MiHpt locations MIP-7, MIP-8, MIP-9, and MIP-13 through MIP-16 were located in the general vicinity of Well MW-6. MiHpt locations MIP-5 and MIP-6 were located east and west of the former building footprint, near the northern old water main. These evaluated whether the old water main is a conduit for contaminant migration. (Map modified from Trinity Source Group, Inc., 2015)



Environmental Control Associates utilized a Geoprobe® 6600 to push the MiHpt probe at 15 of the MiHpt locations. ECA used the Geoprobe® DT22 Soil Sampling System to collect soil cores to confirm the MIP responses and verify what the HPT pressure responses and EC logs were revealing about the local formation.

responses often with corresponding elevated PID responses," Garcia explained. "Elevated FID responses in these same zones and corresponding depth intervals without evidence for CVOCs may indicate the presence of methane, produced as a by-product of ongoing CVOC reductive dechlorination." More detailed interpretation of the MiHpt data is provided under the log above.

Based on the information the field team collected, Trinity concluded that the site was adequately assessed for purposes of groundwater remediation.

The Remedial Action Plan for the project has been approved for implementation by the Central Coast Regional Water Quality Control Board.

The City of Monterey, CA, has envisioned providing public access to the City's waterfront by acquiring open space since the creation of the City's Master Plan in 1939. One of these efforts is the Window on the Bay waterfront park project that runs alongside Monterey State Beach, Del Monte Avenue, and the Monterey Bay Coastal Recreational Trail. (City of Monterey, 2015)



Direct Image® Innovative Technology

Accurate In-situ Logging of Subsurface Conditions

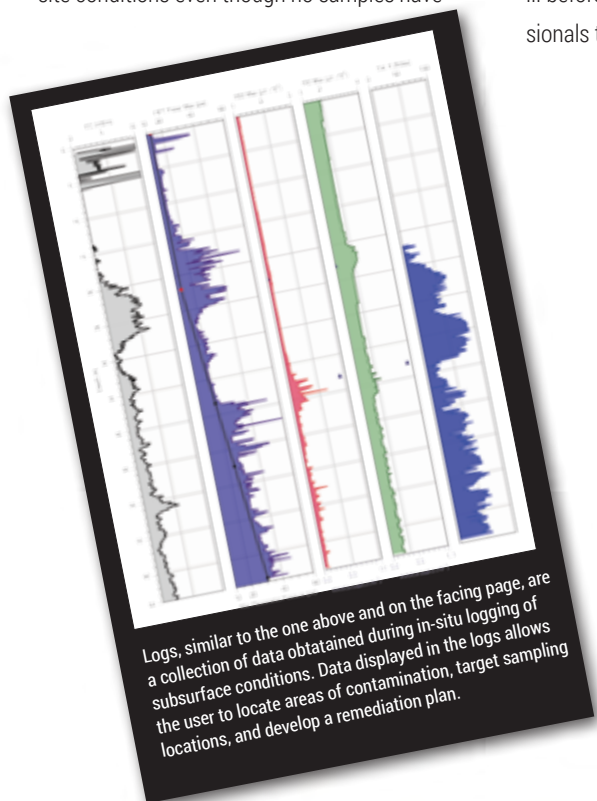
Direct Image® (DI) tooling systems allow for the in-situ logging of subsurface conditions such as lithology, permeability, and VOC contaminate content which can provide an accurate, highly-detailed conceptual site model ... the critical first step in any site investigation. Doug Koehler, Direct Image® Specialist, explained that DI equipment is used, "because the high data density collected allows the Field Team to be confident about subsurface site conditions even though no samples have

been taken." And, according to Koehler, the total cost of a project is usually lower when DI tooling is used from the beginning of the project. "Our equipment allows a consultant to identify where soil and groundwater samples should be collected without guessing the locations they think should be sampled. They also know the extent of the contaminant plume, and they have the information they need to develop an effective remediation plan ... before the first sample is taken." For site professionals to make accurate, educated decisions, they

need to know soil type, contaminate distribution, and permeability, and Koehler said that DI tools are the only way to get this information with the data density they need. "The Geoprobe® Direct Image® team continues to advance the capabilities and functionality of logging tools," he said. "We believe that reliable equipment and providing users with as much data in a single push increases the value of our DI tools to our customers. Modern DI tools are a must to get a thorough understanding of what's going on under your feet."



Doug Koehler
Direct Image® Sales



Direct Image® Probes

Membrane Interface Probes (MIP)

Log the relative concentration of volatile organic compounds (VOCs) in soil along with soil conductivity. Provides high resolution data of contaminate distribution that can be used to create an accurate, conceptual model used to target soil and groundwater sample sites and develop an effective remediation plan.

←--- MP6520 for 1.5/1.75 in. rods
MP8520 for 2.25 in. rods ---->



↑ MP6532 for 1.5/1.75 in. rods

Membrane Interface Hydraulic Profiling Tool Probes (MiHpt)

Combines the power of MIP, HPT, and EC all in a single probe. The combination of these technologies allows the user to obtain large amounts of data in a single push, thus saving time and money.

MP8530 for 2.25 in. rods ↓

Hydraulic Profiling Tool Probes (HPT)

Measures pressure required to inject water into a formation thus providing a detailed log of soil permeability while simultaneously collecting soil conductivity. Allows user to determine preferential pathways for contaminate migration, accurately calculate depth of water table, and estimate hydraulic conductivity (K) in the saturated zone.

K8050 for 2.25 in. rods ↓

SC520 for 1.5/1.75 in. rods ---->

←--- SC820 for 2.25 in. rods

Soil Conductivity Probes (SC)

Obtain general lithology information as well as tracking groundwater that has been impacted by chlorides.



No Roads. No Problem.

7822DT scores “Flawless Performance” when EnviroProbe tests new rig in mountains of West Virginia.

Even when you factor in the lack of access roads, coring in a national forest with protected plant species, and unpredictable weather, Rod Moore, PE, President of EnviroProbe Integrated Solutions in Nitro, WV, says his 7822DT rig could have done more, if needed. His 8040DT, which was also on the job, “has already proven itself before on previous jobs.”

Moore’s contract with the West Virginia Department of Transportation, Division of Highways (WVDOT), required the completion of 64 borings in 30 days resulting in over 2,800 ft. of augering, SPT sampling, and rock coring. This included the construction of all access roads (over 6,000 LF), placement and maintenance of strict erosion and sediment (E&S) controls, placement of timber bridge stream crossings, laying and maintaining of over 6,000 LF of water line (for coring water), drilling, and then final reclamation back to original contour. “Adding to the difficulty of the project in a highly-protected national forest,” Moore said, “was the lack of access roads. We couldn’t always take the most direct route to the boring locations due to terrain and protected fauna.” This resulted in several steep ascent and descents along with dozer winching to get the rigs to the borehole locations.

Boring depths ranged from 25 ft. to over 300 ft.

According to Moore, this was his first major test for his Geoprobe® 7822DT in terms of terrain and rock coring. “The 7822DT performed flawlessly in traversing steep access roads, augering/SPT sampling, and coring to depths of 50 to 190 feet. The 7822DT would easily core deeper than 190 feet, if needed,” he added. The 7822DT cored borings of 46 ft., 50 ft., 85 ft., 114 ft., 127 ft., and 190 ft.

Also on the job was EnviroProbe’s 8040DT. “The 8040DT performed as we had expected by climbing the access roads and coring to depths over 200 feet,” Moore said. The 8040DT rig had no problems with borings of 112 ft., 186 ft., 212 ft., and 231 ft.

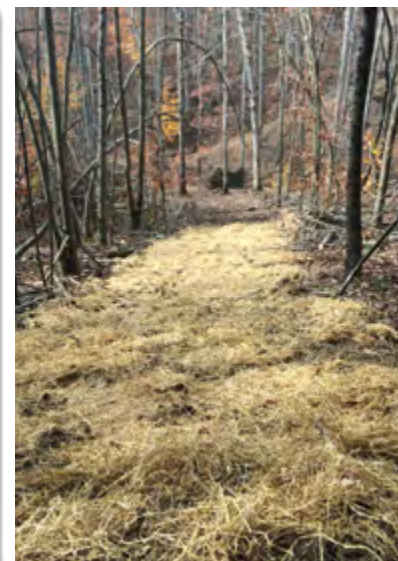
The project, located in the Monongahela National Forest in the mountains of West Virginia near Parsons, involved the use of six rigs, excavators, dozers, and utility vehicles.

“The 7822DT would easily core deeper than 190 feet, if needed. It performed flawlessly.”

Rod Moore, PE, CWD • President
EnviroProbe Integrated Solutions • Nitro, WV



EnviroProbe’s 7822DT cored borings of 46 ft., 50 ft., 85 ft., 114 ft., 127 ft., and 190 ft. in the Monongahela National Forest.



Excavators were mobilized for the construction of temporary access roads and stream crossings. When work was completed, the area was reclaimed back to its original contour.



Newly-constructed trails were narrow due to steep mountainsides.



Logging one of the 64 borings completed at the site.



Stearns Drilling uses their 8140LS Sonic to drill 30-degree angle holes to install 2-in monitoring wells near the shore of Lake Huron in eastern Michigan.

8140LS Travels to East Side of MI Thumb



Bryan Marshall, Driller for Stearns Drilling, uses the 8140LS to install a monitoring well between a building and service station canopy. This mid-sized sonic rig from Geoprobe Systems® can easily maneuver into confined areas with minimal disturbance to the surroundings.

It was so cold the concrete was freezing as soon as it hit the ground!

The winter in Michigan, as in many parts of the country, was a cold one. So cold for Stearns Drilling in Dutton, MI, they had to rely on their bag of 'Mac-Gyver Tricks' to set some monitoring wells along the waterfront.

Such was the case in Harbor Beach, MI, according to Tom Ulrich, Driller for Stearns Drilling, where the ambient temperature was -8 F and the wind chill was -25F. During the well installation process, "it was so cold the concrete was freezing as soon as it hit the ground," Ulrich explained. "So we used a hot water redimix split 50/50 with quick-set redimix. Then we heated the soil and redimix with a torch to give the concrete a chance to set up before it could freeze." Normally redimix makes its own heat as part of the curing process, but it just couldn't compete with the frozen ground and cold temperatures. Ulrich added, "We never appreciated a warm hotel room as much as we did those nights!"

Stearns was drilling 30-degree angle holes at the jobsite and installing 2-in. monitoring wells to document that no contaminants had reached the harbor. "Although we were cold all day, the rig performed great," Ulrich said.

Bryan Marshall was the Crew Chief/Driller, Ulrich was Helper, and Dan Meredith was the Third Helper. Once past the rip rap, the soils were mostly sands until they hit bedrock at approximately 30 feet.

The City of Harbor Beach is located on the eastern side of the thumb, as they say in Michigan, a small area of land that extends out into Lake Huron. Harbor Beach is about two hours north of Detroit.



Bryan Marshall, Crew Chief/Driller for Stearns Drilling, works at installing a 2-in. monitoring well using cold weather 'techniques' while pouring the concrete.



The Stearns Field Team has the 8140LS set up to take a second sample that would be chased by 6-in. rods.



CPT testing for compaction. PRO-DRILL collects geotechnical data to confirm that the build/design of a fill site met requirements set for the site and could be signed off as completed to specifications. The site was a gully on a steep slope that was cut to bedrock, and was filled and compacted with the spoil of a large, new service trench upgrade close-by. Completing this testing eliminated the need to move a large amount of soil offsite for disposal. "The small footprint and stable platform of the 6622DPT rig gave us confidence to access the steep sloping site to complete the testing," reports Kris Hines, PRO-DRILL Driller/CPT Operator. "Bigger machines would slip and slide at this site and not be able to set up level to push the probe successfully."



Pile bell testing on power pylons. Testing was done at 100 mm and 200 mm off the face of the pile. PRO-DRILL was able to complete the testing because of the 6622CPT rig's unique anchoring and pushing configuration at the front of the rig and not in the center like other CPT rigs. The investigation was done to show that any uplift against the pile bell had not weakened the ground above the bell, and to help in designing new foundation improvements to support heavier power transmission lines.



PRO-DRILL uses their 6622CPT rig in the Glenbrook Steel Mill pushing up against one of the melting pots in Glenbrook, Auckland in New Zealand. The temperatures were so hot inside that the computer screen on the rig went black, but, according to Kris Hines, PRO-DRILL Driller and CPT Operator, "the rig never skipped a beat."



- LOW IMPACT TO ENVIRONMENT
- SMALL FOOTPRINT FOR LIMITED ACCESS
- POWER TO PUSH IN TOUGH GEOLOGY

Christchurch in New Zealand is still recovering from the 2011 earthquake. Here, PRO-DRILL pushes in the middle of this car parts distribution factory to determine if any structural damage occurred and if engineers can put together a repair plan.

When Things Heat Up, 6622CPT Rig Doesn't Skip a Beat

Scott Sherwin • Operations Manager
Pro-Drill • New Zealand

"With daily production rates of 180-200 m of pushes by each rig, the quickness of mobilizing and setting up the rig, due in part by its superior anchoring system, quickly became apparent when setting up on properties next to other CPT rigs from other companies. We would arrive and finish our work while the other companies continued on."

Angle Drilling Methods Increasing for Environmental Remediation Projects

submitted by

Tom O'Brien, P.G. • Owner
HomeBiz, LLC - Environmental Solutions
Philadelphia, PA

The use of angle drilling for environmental investigations is becoming more widespread than ever. In today's economy, people are looking for ways to improve contaminant recovery and expedite site closure. Time is money! Consultants and drillers are working together to find more cost-effective ways to evaluate contaminated sites. I've concluded that drilling programs can be designed to exploit the subsurface conditions at contaminated sites.

My experience tells me that many soil and bedrock bedding planes in New Jersey are roughly on an incline of 30 degrees. This is a very important technical finding when it comes to east coast environmental investigations. The bedding planes are zones of greater permeability where contamination can collect and then migrate.

I've worked with S&S Subsurface of Egg Harbor, NJ, for the last eight years. Art Salvatore, Owner, and Pete Dudley, Operator, have provided me with a wealth of knowledge and made many of my ideas a reality. We are drilling below structures with no disruption to the structure. And we are observing an increase in soil recovery in the contaminated zone. Our ability to target in-situ injection areas and increase the zone of capture and recovery is remarkable.

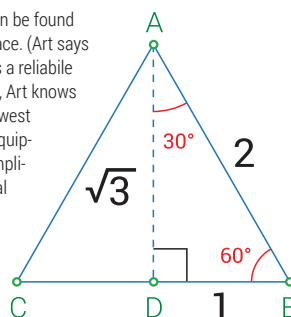
Art and Pete have devised several drilling programs using Geoprobe® equipment to evaluate subsurface conditions and enhance environmental remediation plans. The uses of angle drilling programs typically become evident from initial investigations where vertical borings were used.

The major reason to consider angle borings is based on the shape of contaminant plumes. As a rule, most contaminant zones are wider than thick, so angle borings and wells will intercept a greater surface area than a typical vertical well.

Many times contamination follows dipping geological strata. Strategically placed angle wells can be used to drain these dipping strata or used to enhance vapor recovery systems. When we've placed injection tools on an angle, we find that a greater volume of chemicals can be injected while back pressure and daylighting are minimized.

These findings are a game changer for improving in-situ remediation systems. Maximizing penetration into the more permeable contaminant zones allows for a more cost-effective injection plan and the ability to use in-situ injection techniques previously not considered or believed to be not feasible.

A good example of the benefits of angle probing can be found using the Geoprobe® 66DT, owned by S&S Subsurface. (Art says his 66DT has been around quite awhile but remains a reliable rig for his company.) Based on his work experience, Art knows that a 30-degree angle from the horizontal is the lowest possible setting for probing with their Geoprobe® equipment. Additionally, the use of a 30-degree angle simplifies field determinations of vertical depth, horizontal off sets, and rod penetration distance. Simply put, a 30/60/90 degree triangle side has a ratio of 1: $\sqrt{3}$:2 opposite side relationship. The smallest side -1- is opposite the 30 degree angle, while the largest side -2- is opposite the 90 degree angle. The sample thickness from a boring set at 30 degrees from the horizontal increases sample recovery by 50 percent (i.e. 1:2). According to O'Brien, the increased sample size and surface area exposure is huge.



Doug Turner uses a 7822DT to inject Humics, an in-situ chemical beneath a building, through an angle boring. Drilling through the basement at this commercial building was not possible because the floor had radiant heat in the slab, the basement was an office with limited height, and most importantly, the business did not wish to be disturbed and denied basement access.



Many times, soil contaminant levels are underestimated. The contaminant thickness can be very thin when measured in a vertical boring. Sometimes multiple borings are needed to obtain a representative sample quality to properly characterize the contaminant properties.

A typical error occurs when the drilling field inspector collects a sample of a thin contaminant zone and then mixes it with a less contaminated area so an adequate volume of soil can be placed in a container for analytical laboratory testing. Essentially, the contaminated soil concentration is misrepresented. This is a serious problem when an in-situ remediation approach is proposed. As referenced, soil sample volumes from 30-degree angle borings increase sample recovery of the contaminant zone by 50 percent as compared to a vertical boring. Additionally, the horizontal area represented by the boring is greater. Conclusion: cost savings can be realized by using angle borings.

Drilling techniques can be used to position angle borings and wells to reach contamination not accessible by vertical drilling methods. On numerous occasions, soil samples are required to be collected below buildings or below properties where access is difficult. On more than one occasion, regulatory agencies have required the collection of additional performance soil samples below restored areas.

Angle borings are a great solution to drilling inside buildings or beneath restored areas. Trigonometry tables exist where distance, depth, and rod lengths are calculated. Therefore, any angle from 30 degrees to 89 degrees can be easily determined. Geoprobe® drilling rigs can access many sites not assessable by larger drilling rigs and is ideal for angle drilling at sites where contamination exists. The cost of an angle boring is about 20 percent more than a vertical one. However, the number of angle borings, wells or number of injection sites is reduced and an overall cost savings can be realized.

There are limitations: wells can collapse, boulders can cause deviation or refusal, only small diameter wells can be installed, and angle positions can be different from positioning. We have addressed some of these limitations by using blocks and sand bags to level the rig, used survey equipment to check the levelness of the rig, and have used a larger dual tube assembly and set 2-in. recovery wells.

Little angle deviation occurs for borings completed to depths of less than 40 feet. I've found that most fuel oil and gasoline contaminant site investigations on the east coast rarely exceed a depth of 40 feet.

Other parts of the country and the world may benefit from angle drilling. The key is to work with a qualified drilling firm and discuss potential angle drilling techniques and possible field applications.

Tom O'Brien has 25 years' experience working for environmental consulting and construction firms. He is a registered professional geologist in Pennsylvania, licensed subsurface evaluator in New Jersey, and a Certified Professional Geologist with the American Institute of Professional Geologists.

2 in. Slim Prepacks • 3.75 in. Probe Rods • DT37 Sampling Tools

3.75 in. Tooling for Success in the Field



2 in. Slim Prepacks

With an outside diameter (OD) of only 2.8 inches, the new Slim Prepacks utilize 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 new smaller OD and lighter-weight prepacks (used with 3.75 in. rods) come in 5-ft. lengths, and are available alongside our premium 2.0 in. prepacks (used with 4.5 in. rods).

3.75 in. Probe Rods

The new Geoprobe® 3.75 in. Probe Rod system was designed in conjunction with the new Slim Prepacks to create a more efficient method of installing 2.0-in. Schedule 40 prepack monitoring wells. The 3.75 in. Probe Rods have a 3.75 in. OD and 3.0 in. ID. In short, it's an optimal casing combining ease of use for 2.0-in. Slim Prepack installation, minimal borehole size to maintain reasonable penetration rates, and a robust thread design. As with all of our lines of tooling, everything is designed, manufactured, and sold by Geoprobe Systems® so we can maintain the quality and integrity of our tool lines.

"We were tasked with setting a double-cased well inside a building with space restrictions that would have made entry of traditional rigs impossible. We were able to use our Geoprobe® 7822DT to turn 6.25-in. hollow stem augers and set a 5-in. casing. We then utilized our 3.75-in. rods and DT37 expendable shoes to set a 2-in. slim prepacked well. The new tooling was the perfect solution for our job, and it worked flawlessly!"

Phil Palsgrove • Owner
GeoServe Inc. • Woodstock, IL



Lee Shaw, Geoprobe® Sales, uses a 7822DT to install a new 2.0 in. Slim Prepack using new 3.75 in. Tooling.

DT37 Sampling Tools

DT37 (dual tube) Soil Sampling parts are also available. The DT37 tooling collects continuous soil samples approximately 2.0-in. in diameter. It can be used with an optional expendable cutting shoe to allow for the installation of a prepack well through the 3.75 in. probe rod.

An updated Source Book ... a listing of all tools available from Geoprobe Systems® ... will be available this summer. If you would like a free copy, or if you have questions about any of the new 3.75 in. products or other Geoprobe® tooling lines, please call Geoprobe® Customer Service, 1-800-436-7762.

Genuine Geoprobe® Tooling is Only Available from Geoprobe Systems®



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

NEW! Geoprobe® 2.0 in. Slim Prepack
220282
for use with 3.75 in. tooling

Geoprobe® 2.0 in. Premium Prepack
206644
for use with 4.5 in. tooling



Sonic Tools In Stock for Stock Drilling

Richard Stock, CWD, COSS
 President • Stock Drilling, Inc.
 Ida, MI

"I chose Geoprobe® sonic tooling because of the high quality of the tooling based on the manufacturing processes I had seen and the engineering that had gone into this tooling that I knew from firsthand experience gained by many hours spent with the Geoprobe® team. I know Geoprobe® is working every single day to improve, design, and innovate their sonic tooling. When I was looking at sonic tooling, Geoprobe® had much more diverse sonic options with more coming down their 'proverbial pipe' than any other manufacturer around. I also knew Geoprobe® would stand 100% behind their product and give me the field service I needed ... when I needed it, no matter what. This they have! After I purchased my tools, I realized I needed an adaptor sub in very short order for a particular project. They delivered it, comfortably ahead of schedule. Geoprobe® also had my initial sonic tooling order in stock and ready to go this was quite a sizeable load of steel! All of this tooling on my doorstep, in Michigan, within days of my initial order. And again, ahead of schedule. Impressive!

"The other tooling options I looked at from two other companies was on backorder from one week up to over one month before shipping. Where would I have been had I chosen one of these tooling companies? How long would it have taken to get a new sub, bit, rod or additional casing further down the road for that hurry-up-and-rush project? Once you choose your brand of sonic tooling, you are at that manufacturers' mercy for any replacements.

"Choose your Sonic Tools intelligently and carefully. Unless you want to completely re-tool your rig again, you're going to be working with that tooling system for the life of the machine. I am very thankful I'm working with Geoprobe® Sonic Tools and Team Geoprobe®.

"Oh, yes, and Geoprobe® also had the most competitive overall price, too!!!"



Geoprobe® sonic tooling order for Stock Drilling ... on the shelf and ready-to-roll to Michigan.



Genuine Geoprobe® Tooling is Only Available from Geoprobe Systems®



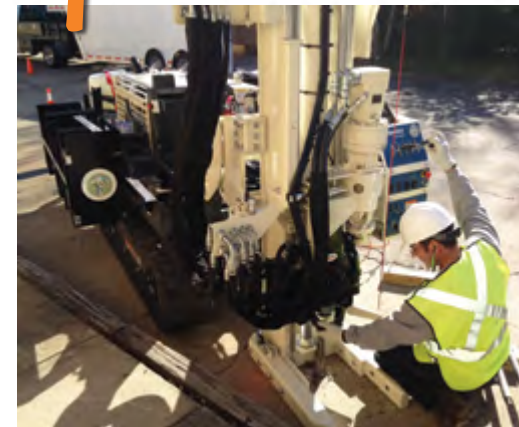
Customer Snapshots



From Sean Dodel, Vice President of Roberts Environmental Drilling in Millstadt, IL: "This was a challenging project but turned out well. The 12.25 in. hollow stem augers (18.5 in. OD) went to 12 feet; then we set a 16-in. steel casing with our 8040DT. The next day we augered to 22 feet with 8.25 in. (13 in. OD) HSA, and then set a 6-in. recovery well. The 8040DT made it with no problems. The site consisted of a thick, gravelly, tar-type material. Our larger auger rig was too big to fit under some overhead piping, so the 8040DT was our only option. It didn't struggle at all and could have gone much deeper, if needed. Never a doubt. Just love that rig!"



From Dusty Schroeder, Owner of Midwestern Drilling in Morris, MN: "Installing monitoring wells in the Bakken Oil Fields with our 7800. Enjoying the oscillation capabilities of this machine."



From Larry Opper, PG, President of Regional Probing Services in Wake Forest, NC: (above) "Using the 6712DT for collecting soil samples with our MC5 sampler. Also, this is our transport setup (right) after installing a monitoring well. The 6712DT is a great performer and has been a valuable asset to our company."



From Alan Livadas, President of Vironex Technical Services, showing their MiHpt Truck and 8040DT in Los Angeles, CA: "Vironex Technical Services (VTS) performs MiHpt technology implementation for Search & Destroy project at Port of Los Angeles. The VTS crew is Mike Haske, HRSC Specialist, and Michael Gerbert, 8040DT Operator."



Knowing Service History of Rig Adds Value to Your Machine and Speeds Up Technical Support

Online Machine Service Records ... New from Geoprobe Systems®!

It's New! It's Easy! And it's another way to add Value to Your Machine!

Now you can use a desktop computer, laptop, or other mobile device to log and store important service information for each of your Geoprobe® rigs. "Our goal at Geoprobe® is to have the best machine service support in the drilling industry," said Darren Stanley, Geoprobe® Service Director, "and this new service tracking system allows us to do just that." Whenever you call us, we log your service issues into our system. We know a lot of you also keep your own records regarding service work on your equipment. With our new service tool, you can log your service work into our system, and in the future we can provide a comprehensive list of what you've done and what we've done ... all in one list. Your input in the system at the time the machine's service is completed can also significantly speed up our response time of future diagnostic challenges. Add value to your rig by having accurate service information that's tied to the serial number for the life of the machine. Call us, your really friendly Geoprobe® Service Guys, to find out more. Or go to geoprobe.com/machine-service-record to get started.

"I'm excited about this new communication tool! From a guy who services his family vehicles, I'd love to be able to communicate with the dealership what service work I've done and for them to track it for me. With this tool, we can do just that with your Geoprobe® equipment. With your rig's service history in hand, you can add long-term value to your equipment and at the same time help us help you better."

Darren Stanley • Geoprobe® Service Director

From Your Finger Tips

Online Machine Service Records

To Our Service Team

quick link to the service record form on geoprobe.com



Sam Anderson, Geoprobe® Service Technician, spends a little time under an 8040DT that came to the Geoprobe® Service Center for maintenance.

We're Here When You Need Us

You've made a significant investment in your Geoprobe® equipment, and our goal is to provide you with THE best possible service to keep it in the field and running at peak performance. The weather and field conditions take a toll on machines. Parts wear out. And let's face it ... your rigs were made to work hard. To keep them in safe and prime operating condition, make sure you check in with us to schedule any necessary maintenance or repairs. Our Service Team knows your Geoprobe® rig inside and out! Give us a call to get your investment checked over so it's running like new again. We're here when you need us.



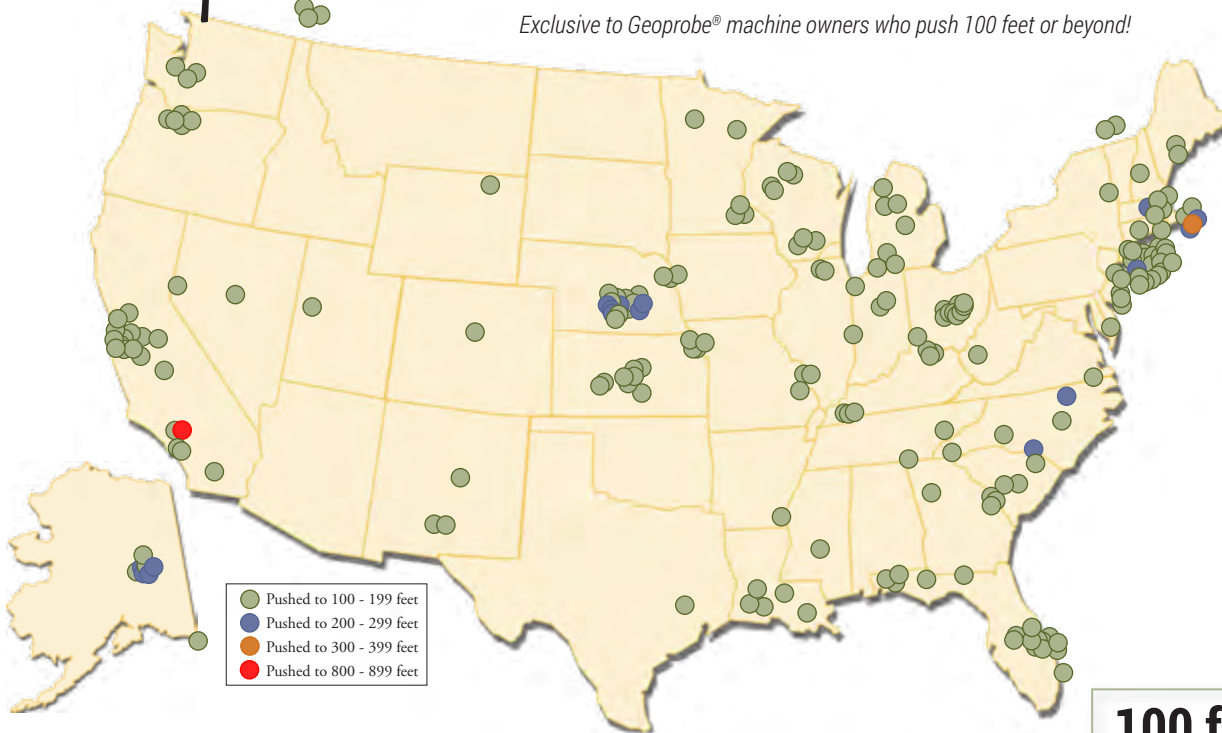
Ready for another day in the field! "Oh, by the way, can you clean up our control panel a little bit? It's gotten slightly dirty." After some elbow grease and scrubbing, the 'field tested' 8140DT control panel (above) was restored to almost new (right). Yep, it's the same control panel! We'll get your control panel and/or rig cleaned up for you for safer operation in the field. Just call us!

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

Geoprobe® '100' Club

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



● Pushed to 100 - 199 feet
 ● Pushed to 200 - 299 feet
 ● Pushed to 300 - 399 feet
 ● Pushed to 800 - 899 feet



102 ft.

AWT Environmental Svcs – New Jersey

FIELD NOTES

Field Team: John Dixon

Field Site: Clifton, NJ

Depth/Date: 102 feet / Nov 21 2014

Geoprobe® Owner: AWT Env Services • Sayerville, NJ

Field Data: Model 7822DT. 2-in. discrete sampling with 1.0-in. lightweight inner rods.

137 ft.

ABLE Environmental – New York

FIELD NOTES

Field Team: Tim Kelly

Depth/Date: 137 feet / Jan. 19, 2015

Geoprobe® Owner: ABLE Environmental • Bohemia, NY

Field Data: Model 7822DT.



100 ft.

Mannik-Smith Group – Michigan

FIELD NOTES

Field Team: James Faitel and Mark Walker

Field Site: Downtown Detroit, MI

Depth/Date: 100 feet / Mar. 20, 2015

Geoprobe® Owner: Mannik-Smith Group • Canton, MI

Field Data: Model 7822DT. First day on job! 12-hr. day. Pushed 3.25 in. casing to 60 ft., then used MC5 to make pilot hole to advance casing to next interval. Medium to stiff clays all the way. N values were 5-15. Goal was to hit bedrock but ran out of tooling!



190 ft.

EnviroProbe – West Virginia

FIELD NOTES

Field Team: Brandon Scarberry & Ryan Thomas

Depth/Date: 190 feet / Dec, 2014

Geoprobe® Owner: EnviroProbe Integrated Solutions • Nitro, WV

Field Data: Model 7822DT. 114 ft., 127 ft., and 190 ft.



277 ft.

Nevada Exploration – Nevada

FIELD NOTES

Field Team: (l to r) Zack Simantel & Ken Tullar

Field Site: Central Nevada

Depth/Date: 202 feet / Mar. 8, 2012

Geoprobe® Owner: Nevada Exploration • Sparks, NV

Field Data: Model 6600 mounted on F550. SP16 and 1.5 in. tooling. Recap of previous 200+ events: **210 ft.** on 5-8-07; **205 ft.** on 5-8-07; **207 ft.** on 5-9-07; **202 ft.** on 10-16-07; **216 ft.** on 11-6-07; **220.5 ft.** on 11-9-07; **227.5 ft.** on 11-16-07; **277 ft.** on 5-19-08; **210 ft.** on 6-4-11; **205 ft.** on 7-8-11; **225 ft.** on 7-10-11; **205 ft.** on 7-16-11; **202 ft.** on 3-9-12.



136 ft.

Roberts Environmental Drilling – Indiana

FIELD NOTES

Field Team: (l to r) Maury Vaeth and Eric Wetzel

Field Site: Labadie, MO

Depth/Date: 104 and 136 feet / Feb, 2015

Geoprobe® Owner: Roberts Environmental Drilling • Goshen, IN

Field Data: Model 6620DT. Using DT25 to hit 104 ft. Using 1.25 in. mill-slot sampler to reach 136 ft.

203 ft.

Soken Kiso – Japan

FIELD NOTES

Field Team: Yoshihiro Imai and Sho Kuronuma

Field Site: Fukushima, Japan

Depth/Date: 203 feet / Nov 2014

Geoprobe® Owner: Soken Kiso • Japan

Field Data: Model 8140LC using 6-in casing to set U-tube for geothermal project.



231 ft.

EnviroProbe – West Virginia

FIELD NOTES

Field Team: Mike Hager & Chris Johnson

Depth/Date: 231 feet / Dec, 2014

Geoprobe® Owner: EnviroProbe Integrated Solutions • Nitro, WV

Field Data: Model 8040DT. 112 ft., 86 ft., 212 ft., and 231 ft.

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

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8150LS Sonic

8140LS Sonic

8140LC Sonic

Geoprobe

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June 2015

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More information coming soon!
Registration Required.

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