

news



Terraquest has recently hired additional staff to handle our increasing workload. Wes Sorrells (right), recently completed his hazardous waste operations and emergency response training. Wes is an environmental technician and will be assisting with drilling and sample collection.

Robin Hawley was also recently hired and will be assisting Kim Scott with office administration.

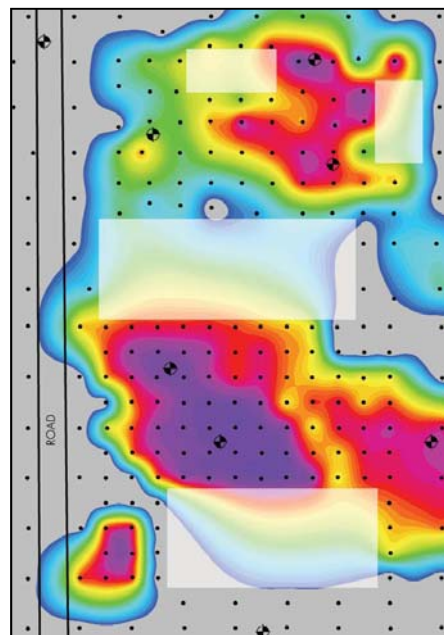
ENVIRONMENTAL FIELD CONFERENCE

In January, Terraquest attended the 2006 North American Environmental Field Conference & Exposition in Tampa, Florida. The three-day exposition displayed the latest environmental equipment and provided lectures and workshops in a broad range of environmental topics.

Improving site assessments and reducing the length of time required to collect and analyze data was a primary focus of workshops and field demonstrations. Several vendors displayed field testing kits aimed at reducing assessment costs and time through the collection of a greater number of site samples for field or preliminary offsite screening. Gridding a site and collecting a greater number of samples can allow for better follow-up sampling based upon the field or preliminary results. This can reduce the length of time for a standard assessment because the project starts with a better understanding of where contaminants may be located. While these tests will not replace actual analytical testing, they are beneficial. However, they may not be applicable

to all sites. Sites that have complex hydrogeology may have contaminants distributed in zones that these field tests cannot detect.

It appears that the use of some of these screening surveys may be very useful at sites with shallow groundwater to delineate the contamination before installing the monitoring wells. Terraquest will continue to evaluate these tests. (Continued on page 2)



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ENVIRONMENTAL FIELD CONFERENCE (Continued)

In addition to learning about field testing kits, Terraquest attended field demonstrations of sonic drilling and new Geoprobe equipment. See the sonic drilling article below. Geoprobe demonstrated the use of several direct push units and equipment, including the use of the membrane interface probe (MIP). MIP is a screening tool with semi-quantitative capabilities acting as an interface between the contaminants in the subsurface and gas phase detectors at the surface. The detector information and the electrical conductivity of the soil are graphed by a field instrument. This allows the operator to determine the location of the contaminant, the relative concentration of the contaminant and the type of soil in which the contaminant is located. The MIP log can be used to determine the depth at which a monitoring well should be placed, at what depth samples need to be collected, or the interval for injection of remediation materials. The use of MIP is gaining widespread use to aid in the investigation of releases.

Solinst, a Canadian manufacturer of soil and groundwater monitoring and remediation equipment, presented information on their new Waterloo Emitter. The emitter is a

simple, low cost device used for the release of amendments, to encourage the growth of microorganisms for in-situ bioremediation of contaminated groundwater. The patented technology allows direct diffusion into the aquifer of fluids through silicone or LDPE tubing wrapped around a wire frame. One of the benefits of this remedial equipment over conventional air sparging is that it does not cause groundwater mounding, which must be considered where plume movement is an issue. Terraquest is planning to investigate this equipment further for possible use.



SONIC DRILLING

Sonic drilling demonstrations were one of the highlights of the Environmental Field Conference attended by Terraquest. Sonic drilling is still relatively new, even though it has been around since the late 1940's. This drilling technology goes by several names, including sonic drilling, rotasonic,



rotasonic, and vibro-core drilling. Essentially, this is a dual-cased drilling technology that uses high frequency mechanical vibration to take continuous soil samples. Within the drill head are two eccentric,

counter rotating balance weights that are timed to direct 100 percent of the vibration down the drill rod, and not through the drill rig. The vibration causes the rod to penetrate or shear the soil material. The soil material is held within the rod until it is vibrated out into a plastic liner as shown at left or into a hard plastic liner. This allows for a relatively undisturbed sample.

Drilling rates can be quite high in some materials. Most sonic drilling rigs to date have been very large. Newer rigs are smaller and can be taken inside buildings. Two of the main advantages to this drilling technology are that it can drill at an angle and that it produces 75 percent less waste compared to conventional drilling. This is extremely important where the waste must be containerized for disposal.

Currently, there is limited availability of the smaller sonic rigs and they are often scheduled months in advance. Compared to conventional drilling such as auger and direct push, sonic drilling is significantly more expensive per foot.

NEW UST DEVELOPMENTS

Since the last newsletter, there have been a lot of new developments from the North Carolina Division of Waste Management – Underground Storage Tank Section (NCDWM-UST). A new draft guidance document was published in January 2006 to replace the current 2000 and 2003 documents. The new guidance document is still in review, but is tentatively set to take effect in March. One of the more significant changes to the new guidance is increasing the tonnage excavated during tank closures. The goal of increasing the excavation tonnage during tank closures is to aid in site closure without the need for additional assessment. The NCDWM-UST has realized that excavation is often the quickest and least expensive method of site remediation.

According to the NCDWM-UST website, the current funding level for the leaking underground storage tank trust fund is approximately \$5 million. This is a significant turnaround from the \$30 million shortfall a year ago. While the NCDWM-UST has saved significant money by implementing a pre-approval process and site prioritization, the process does have drawbacks. Sites that fall below the current priority ranking of 550 can conduct work as non-directed. This means the responsible party will be refunded at some point in the future. Sites that are ranked higher than 550

can be reimbursed costs within 90 days. The pre-approval process is lengthy and can result in assessment and remediation delays. Although the NCDWM-UST may not be requesting work on sites ranked lower than 550, these sites still present a liability to the responsible party, particularly where contaminants have migrated onto offsite properties.

The NCDWM-UST has recently revised the procedures for placing UST systems in temporary closure & later returning them to service. Some tank owners believe the least expensive way to deal with a tank they don't want to continue using is to pump it out and say it is temporarily closed. There are a lot of procedures and costs involved in keeping a tank in temporary closure for more than 3 months. In addition to having the tank pumped out, corrosion protection systems must be maintained. This will involve keeping power available to the site. Tank systems that have impressed current must be inspected every 60 days by a

qualified technician to ensure the system is operating properly. Annual tank fees and financial responsibility must also be maintained. Bringing a tank out of closure also involves significant cost because a precision tank tightness test must be conducted. Terraquest has recently removed several tanks for clients that have paid as much as \$27,000 in tank fees while their tanks were in temporary closure. The cost of the tank fees was greater than the tank removal cost.

If you are considering temporary closure for a tank, please consider the long-term costs. If you have questions or would like a disposal quote, please contact us at (888) 932-1590.



MOBILE LABORATORIES



Onsite mobile laboratories have generally been reserved for very

the lab will primarily be used for military and dry cleaning sites, it

large sites where enormous amounts of analytical data are needed to direct the site assessment. Typically, the sites have been military, where budgets allowed onsite testing. That is changing.

KB Labs, of Gainesville, FL, is in the process of establishing a mobile laboratory in North Carolina. While

does have applications to smaller petroleum sites where data is needed quickly. Approximately 20 analyses can be performed in a day for less than \$2,000.

Use of mobile labs may be beneficial to rapidly assess soil and groundwater contamination to meet regulatory deadlines or in emergency situations. At present, it may take several weeks to obtain an onsite lab, but that may change in the near future.

TerraQuest Environmental Consultants, P.C. is a full service environmental consulting company providing assessment and remediation services to various industries. Our highly trained staff is OSHA certified and able to provide clients with high quality, cost competitive services. If you have any questions regarding our services, please contact us.

Specializing In:

- Phase I/Phase II audits
- Soil and Groundwater assessment and remediation
- Drilling and Geoprobng
- UST removal and in-place abandonment
- Permitting
- Pilot testing
- Expert witness testimony
- Brownfields



RECENT PROJECTS

Bulk Oil Terminal

Terraquest is assisting with drilling, data collection, and remediation at a bulk oil terminal. A detailed site assessment is currently being prepared to determine the extent of the release.



wells would not be practical. Terraquest is now assisting the developer with an alternate strategy to allow for the installation of private water supply wells.



Terraquest is currently assisting a natural gas pipeline company with the assessment and remediation of an oil leak at a compressor station.

Water Resource Development

Terraquest has been assisting a developer in locating sufficient water resources for a planned residential development. Geologic mapping, lineation analysis, and regional hydrogeology were used to select drilling locations for community water wells. Ultimately, it was determined that the installation of community

Franklin County Schools

Terraquest supervised the removal of two fuel oil underground storage tanks that were no longer being used. In an effort to complete the remediation during the closure, soil excavation was conducted. Future assessment work will focus on identifying sensitive receptors and remediating the release so that planned construction can occur.



Natural Gas Pipeline

TERRAQUEST ENVIRONMENTAL CONSULTANTS, P.C.
209 E. MAIN STREET
CARRBORO, NC 27510

Ph. 919.932.1590 or 888-932-1590
Fax: 919.932.1594

www.terraquestpc.com