3 February 2012

Dear Industry Colleagues,

Happy New Year!

In keeping with tradition, we take this time to offer you best wishes for a successful 2012 and to share some news from TRI. We have just completed a successful 2011 effort and are giving thanks for the many blessings we have received in the face of substantial economic challenges associated with the global economy. TRI has not only survived but has continued to adapt and grow for continued service to our clients. We would like to take this time to recognize some of the accomplishments from 2011 and offer a look at some interesting projects moving forward:

- Diligent participation in our professional communities
- Merger of Precision Laboratories into the TRI family of companies
- Increased efficiency & capacity in TRI's GeoTech Lab
- 1st Large Scale Erosion Control Test Lab with GAI-LAP Certification
- Evolving electrical leak location equipment
- TRI offers bench-scale equipment to test ***Pore Size Distribution*** per ASTM D 6767

STAFF SERVICE TO INDUSTRY AND ANNOUNCEMENTS

Sam Allen continues to serve on the Board of Directors of the Geosynthetic Institute (GSI) and has recently been selected as the Co-Chair of the important Geosynthetics 2013, *Geosynthetics for Water & Energy Challenges*, conference to be held in Long Beach, California 1-4 April 2013. In addition to activities as immediate past Chairman of ASTM Committee D35 on Geosynthetics, Sam also serves as the Convener of Working Group 5 on Durability in the ISO TC 221 Geosynthetics Committee.

Rick Thomas, TRI's Senior Scientist, was acknowledged by the Plastic Pipe Institute (PPI) for outstanding service and continues to serve on many committees in the organization. Joel Sprague, P.E., TRI's Senior Engineer, continues to serve as Chairman of SubCommittee D35.01 on Geosynthetic Mechanical Properties.

Mr. John Allen, P.E., Division Director of Geosynthetics Interaction and Technical Support Divisions, completed his work with the Geo-Engineering Extreme Events Reconnaissance (GEER) team on the Christchurch, New Zealand Earthquakes. Their findings will be presented at the 2012 GeoCongress in Oakland, California in March 2012.

Of special note was 2011's unequalled TRI staff performance resulting in turnaround time records for all geotechnical, geosynthetic conformance/verification, and erosion control product testing. This was a result of the staff's long-term tenure at TRI, vigorous equipment maintenance, achieved system efficiencies and 24-hour full-time laboratory operations during peak demand periods.

TRI was pleased to continue our support of a graduate student at the University of Texas at Austin for geosynthetics-related research. TRI is now sponsoring our 5th student in this regard, with previous students achieving graduation and starting successful careers at many of our clients' firms including Golder Associates, AMEC, GeoSyntec Consultants and URS.

Finally, TRI is pleased to announce the addition of a very talented Project Manager, Ms. Willow Lucas. Willow joins Melissa Hunter and Jennifer Tenney in client communications and logistics support

MERGING WITH PRECISION GEOSYNTHETIC LABORATORIES INTERNATIONAL (PGLI)

In late 2011, TRI merged Precision Geosynthetic Laboratories International (PGLI) of Anaheim, California into the TRI family of companies. TRI-Environmental and PGLI will share administrative and technical resources while continuing the strong service programs of each. TRI is especially pleased to help honor PGLI's late founder, Ronald Belanger, through our support of PGLI's decades long commitment to geosynthetic service excellence. PGLI will continue to operate independently from TRI as a stand-alone geosynthetic services laboratory in California. This new relationship has already provided strong technical support of PGLI by TRI as well it has enhanced PGLI's business operations by providing new administrative support services. Together, TRI and PGLI offer a unique independent, third-party service platform for all geosynthetic sampling, testing and research services.

LABORATORY EQUIPMENT, INFRASTRUCTURE, CREDENTIALS AND GROWING TECHNOLOGIES

TRI continued to grow internal resources to further expand and enhance testing capabilities and associated turnaround times. Our growth in this regard is testament to your critical support and our continuing reputation as "the industry's lab." For this, we are profoundly grateful.

Interface Friction / Direct Shear and Associated Geotechnical Testing

TRI's continued investment in quality excellence and state-of-the-art advancement continued in 2011. We worked on a record number of projects and assisted clients with an expanding variety of different geotechnical testing projects, including wind farm foundations, hazardous waste sludge impoundments, landfills and leachate pad slope stability evaluations. TRI realized substantial commitments to personnel training and management that has afforded robust infrastructure growth and corresponding reduction in project turn-around times. In the geotechnical laboratory we added two new load frames, including one capable of 220 kN (50,000 lb_f) routinely used for testing 150 mm (6 in.) diameter triaxial shear strength specimens at confining pressures up to 3100 kPa (450 psi).

Unsaturated Soils Testing

As evapotranspirative cover systems and unsaturated soil mechanics become more and more common we continue to provide support through the determination of the soil-water characteristic curve using the hanging column, triaxial pressure plate, chilled mirror hygrometer, and the humidity chamber. TRI understands that different landfill closure systems exist and our testing capabilities are keeping pace with these new design needs.

Thickness-Dependent Transmissivity

Taking full advantage of TRI's unique accelerated creep testing capabilities using the Stepped Isothermal Method (SIM), TRI established the ability to use compressive creep data to determine long-term flow measurements of geosynthetic drains. Using the time versus thickness relationship data established during compressive creep testing, TRI is able to perform short-term, thickness-dependent flow testing avoiding the 100 hour duration of time-dependent performance oriented transmissivity tests. This work has now been published in conference proceedings as well as industry trade journals and has been successfully used on many projects to achieve rapid turnaround time on flow verification projects.

Large-Scale Erosion Control Testing Laboratory

TRI's Denver Downs Research Facility (DDRF) in Anderson, SC, continued to provide large-scale performance testing of erosion control products (ECPs) and sediment retention devices (SRDs). TRI began operations at DDRF in 2007 and has, since that time, performed well over 100 independent large-scale performance tests on a wide range of ECPs and SRDs. Since the fall of 2009, TRI's DDRF has been the contract lab for the National Transportation Product Evaluation Program's (NTPEP's) large-scale ECP slope and channel erosion testing program. The results of all NTPEP testing are posted at www.ntpep.org. In addition to NTPEP, TRI has performed testing for WisDOT, SCDOT, and several dozen private companies.

Figure 1. DDRF "Field Day" Co-Sponsored by the SE Chapter of the International Erosion Control Association (IECA)

In 2011, DDRF continued its unique independent, third-party laboratory accreditation of large-scale erosion control and sediment retention device test methods by the Geosynthetics Accreditation Institute (GAI), and continues to maintain this accreditation through annual proficiency testing.

The strategic hiring of Jay Sprague as DDRF's Laboratory Director in July of 2011, enabled TRI's Senior Engineer and acting Lab Director, Joel Sprague, to once again focus on a broader range of technologies associated with stormwater management, including not only erosion and sediment controls, but also geosynthetics and plastic pipe. As a result, DDRF realized robust business during the year. Additionally, at the close of 2011, DDRF was awarded a $100,000 research project by the Georgia Soil and Water

Conservation Commission to establish test methods and baseline data for the large-scale performance characterization of sediment retention devices.

DDRF has never been more equipped and ready to accommodate the growing erosion control and water management industries. Additional information, including DDRF accreditation documentation, may be accessed at *www.ErosionTest.com*.

Updates on LISA 1000 Liner Integrity Survey (Leak Location) Test Equipment

Last year TRI-CORP announced the offering of new second generation leak location equipment manufactured specifically for this application and to directly assist the field technician performing a leak location survey. This new equipment is marked by a new, robust field-worthy design and data acquisition capabilities. Included also is a water brush detection unit for exposed, relatively-flat geomembrane installations so water cover is not needed. Stay tuned for additional electrical resistivity equipment announcements and associated short courses and training events.

Figure 2. TRI-CORP Student with LISA 1000 Water Brush Apparatus

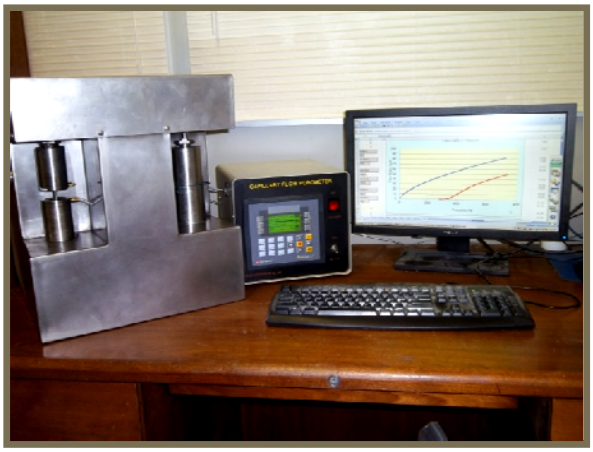

Figure 3. TRI's Pore Size Distribution Apparatus

Pore Size Distribution per ASTM D 6767

After many well-documented industry struggles with the Apparent Opening Size (AOS) test procedure (ASTM D 4751) TRI has spent considerable time studying technique, process variables and better performance measures for this important test. Significantly, pore size distribution (PSD) testing may be the better solution. Unlike ASTM D 4751 which measures the largest size of a given geotextile specimen and determines the size at which 95% is retained, ASTM D 6767 measures the entire pore size distribution of the geotextile. Capillary porometry governs ASTM D 6767 and is a superior technology to particle sieving methods such as AOS, COS and FOS. It has been proven to be more accurate and more reproducible.

The results of the dry specimen portion of the PSD test can be correlated both to the ASTM D 4491 permittivity as well as the ASTM D 737 air permeability test values. The opening size distribution

generated from PSD has valuable civil engineering and MQC significance. TRI, after studying this important alternative to traditional AOS testing and realizing its significance to better filter design and specification, established a dedicated project to manufacture the needed test equipment. This has now been achieved with TRI's own designed and verified PSD apparatus, compliant with ASTM D 6767 and offered for sale.

CONCLUSION

TRI appreciates your support and business, and this opportunity to share with you our efforts to continually improve as your choice for geosynthetic testing and research services. We are committed to what we do here at TRI continuing each year to bring you the best, independent, third-party, most responsive service, assisting you to realize success with geosynthetic and geotechnical projects.

Please contact us if you have any questions, suggestions, or comments. We look forward to working with you in 2012.

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