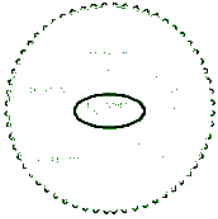
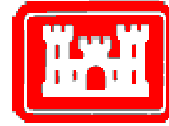




CQA / Design Training



Accredited Geosynthetic Laboratories
Accreditation Designation # GAI-LAP-95-01



**CONSTRUCTION QA/QC for GEOSYNTHETIC INSTALLATIONS &
GEOSYNTHETIC INSTITUTE (GSI) - CQA INSPECTORS CERTIFICATION EXAM**
Monday, May 9, 2011

LANDFILL SLOPE STABILITY AND DRAINAGE DESIGN and TESTING ISSUES
Friday, May 13, 2011

Location

Opal Cove Resort

*Pacific Highway, Korora Bay,
Coffs Harbour NSW, Australia*

**courses conveniently scheduled around the
Waste 2011 Conference
Tuesday May 10 to Thursday May 12, 2011**

Field CQC / CQA Training (May 09, 2011)



This 1-day course has been specifically designed for those persons who have a need for a detailed understanding of proper CQC and CQA procedures for geosynthetics used in waste containment facilities.

This course is ideal preparation for the Geosynthetic Certification Institute's certification exam and will provide a comprehensive understanding to those professionals who are: preparing CQC/CQA plans, reviewing CQC/CQA plans, performing CQC/CQA observations and tests, and reviewing field CQC/CQA procedures.

Professionals who will benefit from this course include

- Specifying/Certifying Engineers
- Construction/Quality Assurance
- Project Managers
- Installers/Contractors
- Third Party Inspectors
- Regulators

The course focuses on installation of geomembranes, GCLs, geotextiles, geocomposites, geogrids and geopenance, and includes a geomembrane seaming demonstration with a detailed demonstration of seam peel and shear testing. Special emphasis will be given to establishing rationale and standard operating procedures for field inspections, documentation of test and visual observations and implementation of CQA plans. A broad based appreciation for the manufacturing and installation of waste containment facility materials will be provided. This course will be immediately followed by the

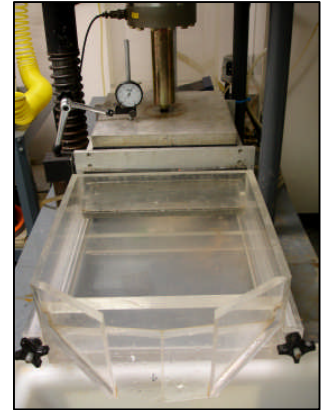
GCI CQA Certification Exam (evening of May 09, 2011)

Each CQA course student will be allowed to sit for the **Construction Quality Assurance-Inspectors Certification Program (CQA-ICP)** exams immediately following the CQA course. The GCI exam itself is part of the GCI CQA technician certification program. Note that compacted clay liners will NOT be covered as part of the geosynthetics CQA course. Additionally, exam takers **MUST REGISTER** with the Geosynthetic Institute (GSI) and pay their required certification fee in order to take this exam. TRI does NOT collect this fee as it must be paid directly to GSI (GSI phone: +01 610-522-8440) or www.geosynthetic-institute.org

Landfill Slope Stability and Drainage Design & Testing Issues (May 13, 2011)



This 1-day course has been specifically designed for those persons who have a need for a detailed understanding of proper containment structure slope stability and drainage design and testing. It is specifically targeted to those persons who have a need to understand and specify interface friction/direct shear tests and hydraulic transmissivity tests, and use generated results in subsequent design.



Professionals who will benefit from this course include

- Specifying/Certifying Engineers
- Construction/Quality Assurance
- Manufacturers
- Installers/Contractors
- Third Party Inspectors
- Regulators

This course will be presented in two parts, each complementing the other to provide maximum benefit. The first will focus on the designer's use of interface strength including history, basics of slope stability, a fundamental explanation of interface friction testing, and concepts involved when reviewing and applying interface friction testing results.

The second part of the short course will provide a detailed explanation of drainage geocomposites and their use in waste containment. We'll focus on manufacturing quality issues and design needs such as transmissivity, compression strength and creep. Performance testing of geocomposites will be discussed and how ply adhesion, transmissivity and interface friction are related.



Lastly we'll review interface friction and geocomposite case histories and discuss writing of performance specifications to meet your project needs.

Where to stay for the courses...

The Field CQC/CQA Training and Slope Stability and Drainage Design and Testing Issues short courses will be held at the Opal Cove Resort in Coffs Harbour NSW, Australia, and are scheduled for the day before and the day after the Waste 2011 Conference, May 10-12, 2011. Please note that TRI's short courses are a separate event and not associated with Waste 2011 Conference. Hotel rooms are expected to fill up fast due to the two separate events being held at the same hotel.

Please contact or visit Waste 2011 Conference's website for information on their 2011 Conference.

Opal Cove Resort
Pacific Highway, Korora Bay
Coffs Harbour, NSW
(02) 6651 0510
www.opalcove.com

Impact Environmental Conferences
waste2011@impactenviro.com.au
www.impactenviro.com.au/waste2011
Ph (02) 6583 8118

About TRI...

TRI/Environmental, Inc. (TRI) has been active in geosynthetics testing, inspection and research and development for over eighteen years. TRI is an independent, third party laboratory unaffiliated with any manufacturing, engineering/consulting, or construction management firm.

Download registration forms for the courses and exams at www.GeosyntheticTesting.com

INSTRUCTORS

Sam Allen - Vice President

Mr. Allen is an experienced professional with a background in chemical and materials engineering, with specialization in the field of polymer testing and geosynthetics. He began his career in the geotechnical and construction materials testing field and has broadened the scope of his involvement in environmental engineering to include geosynthetics technology with specialization in laboratory testing operations. Sam serves as the Vice President of the Texas Research International (TRI) Geosynthetics Services Division, an independent, third party testing and research firm in Austin, Texas. He has served TRI for over twenty-five years providing direction for routine geosynthetics characterization services, as well as geosynthetic system design and performance evaluation support.

Mr. Allen also served as the Chairman of ASTM Committee D35 on Geosynthetics and is currently the Convenor of Working Group 5 of ISO TC 221 Committee on Geosynthetic Durability. Sam is on the Board of Directors of the Geosynthetic Institute in Folsom, Pa. and the North American Geosynthetics Society.

John M. Allen, M.S., P.E. – Division Director

Mr. Allen is the Director of the Geosynthetic Interaction and Geotechnical Laboratories at Texas Research International's (TRI) Geosynthetics Services Division. John has served as the subcommittee chair of D35.04 on interface friction strength of GCLs within ASTM. He currently oversees slope stability testing for over 200 different geosynthetic lined sites each year. John also has over 100,000 m² CQA experience in North and South America for compacted clay liners and geosynthetic installation. He has overseen TRI's field technicians which have over 2 million m² of geosynthetic CQA experience. Mr. Allen served on the Geo-Engineering Extreme Events Reconnaissance (GEER) team for the Darfield Earthquake, 2010. John is also an invited reviewer for the Geotechnical Testing Journal and Journal of Geotechnical and Geo-Environmental Engineering.

Short Course / GCI Exam Cost/Tuition (see registration form) For registrations before Friday, April 15th, 2011

CQC/CQA & Slope Stability and Drainage Design Issues Short Courses and CQA Exam

May 09 & 13, both courses, 1 registrant per company	\$775.00/person
May 09 & 13, both courses, 2 registrants per company	\$700.00/person
May 09 & 13, both courses, 3 + registrants per company	\$625.00/person
May 09 & 13, both courses, both courses, government	\$380.00/person

One course (day) only, 1 registrant per company	\$475.00/person
One course (day) only, 2 registrants per company	\$425.00/person
One course (day) only, 3 + registrants per company	\$375.00/person
One course (day) only, government	\$250.00/person

GCI Exam

May 09, TRI fee for one applicant only per company	\$55.00/person*
May 09, TRI fee for 2+ applicants per company	\$40.00/person*

*The exam costs above **DO NOT reflect the cost for sitting for the GCI exam**, only TRI's exam proctoring cost for offering the exam as part of the short course event.

The GCI exam is part of the GCI CQA technician certification program. Because of this, **one MUST REGISTER** with the **Geosynthetic Institute (GSI)** and **pay their required certification fee** in order to take this exam. **TRI does NOT collect this fee**, it must be paid directly to GSI.

GSI phone: +01 610-522-8440 or www.geosynthetic-institute.org

CQA FOR GEOSYNTHETIC INSTALLATIONS SHORT COURSE OUTLINE**Day 1 – Monday, May 09, 2011**

- 7:30-8:00am Registration
- 8:00-8:15 Welcome and Introductions
- 8:15-8:30 CQA Principles and Philosophy
(Responsibilities, appreciation of role, professional considerations and on-site protocol, conflict resolution, etc.)
- 8:30-9:30 Barrier Function, Background of Geosynthetics and Manufacturing
(Polymers to products, material properties, product manufacturing)
- 9:30-10:30 HDPE & LLDPE & fPP Geomembranes & Seams
(Types and specifications, shipping/receiving, unloading, storage & installation)
- 10:30-10:45 Break
- 10:45-11:45 Welding Demonstration/Seam Testing with Installer
(Double track fusion welds, extrusion welds, "T" welds, seam sampling, peel and shear testing, peel incursion and strain measurements, modes of failure, break codes, field vs. laboratory testing)
- 11:45-1:00 pm Lunch (provided)
- 1:00-1:30 Other Geomembranes Types & Seams
(Types and specifications, shipping/receiving, unloading, storage & installation)
- 1:30 -2:30 Geotextiles, Geonets/Geocomposites, Geogrids, Pipe, Erosion Control
(Types and specifications, shipping/receiving, unloading, storage & installation)
- 2:30-3:30 GCLs
(transportation, handling, storage, subgrade preparation, placement procedures, seaming protection, construction quality control and assurance, observations, types of tests, frequency of testing, field case history)
- 3:30-3:45 Break
- 3:45-4:30 Protection and Soil Cover
- 4:30-4:45 CQA Paperwork and Record Keeping
(Importance of documentation, communication records, examples of record keeping and documentation, checklists)
- 4:45-5:00 pm Discussion

CERTIFICATION EXAM**Construction Quality Assurance-Inspectors Certification Program****Day 1 - Monday, May 9, 2011**

6:30-7:00 pm	Registration and Introduction
7:00-9:00 pm	Geosynthetic Exam
9:00 - 9:15 pm	Break (on your own)
9:20-10:20 pm	Compacted Clay Liner Exam

INFORMATION regarding exams:

1) ALL students wishing to sit for the exam(s) **MUST FIRST register for certification through the Geosynthetics Certification Institute and pay the applicable fees directly to GSI** (phone: 610-522- 8440). You may find more information at <http://www.geosynthetic-institute.org/icpintro.htm>. GSI registration must be received by the GSI before the April 22, 2011 exam(s).

2) Students are **REQUIRED** to bring a government-issued photo ID prior to entering the testing room. They must also supply the Proctor with a photocopy of the ID when turning in the test.

3) Time allowed:

Students will be given two hours to take the geosynthetic test. There are 140 questions and you must answer 70% of the questions correctly in order to pass. Please note that there is only one correct answer for each question.

You will be given one hour to take the compacted clay liner test; there are 30 questions and you must answer 70% of the questions correctly in order to pass. Please note that there is only one correct answer for each question.

4. The test is a multiple-choice test. The student must circle the correct answer (and only one answer) for each question. They must not select multiple answers for the same question.

LANDFILL SLOPE STABILITY AND DRAINAGE ISSUES
Day 2 - Friday, May 13, 2011

7:30-8:00 am	Registration
8:00-8:05	Welcome
8:05-8:45	Background and History (Kettleman Hills and other failures: What happened; what was learned, how industry was impacted)
8:45-10:00	Slope Stability Basics (How to approach a slope stability problem; what's needed for evaluation; what can be done and what can't be done)
10:00-10:15	Break
10:15-11:00	Standards and Testing (Historical background; descriptions of ASTM D 5321 and ASTM D 6243, normal stress application; machine friction and calibration; strain rate determination: strain rate considerations; "floating" interfaces; GCL challenges; reporting of results)
11:15-11:45	Interface Strength - Designer's Perspective (How to review test results; normal stresses; water pressures; peak versus residual strengths; friction angles and adhesions/cohesions; "conservative" vs "liberal" results)
12:00-1:00 pm	LUNCH
1:00-1:30	Introduction to Drainage Geocomposites
1:30-2:00	Common Manufacturing Quality Issues and MQC
2:00-2:45	Design Needs (What is needed in design? Transmissivity, compression strength, creep, etc.)
2:45-3:30	Standards and Testing (Transmissivity, creep, ply-adhesion strength, interface shear strength)
3:30-3:45	Break
3:45-4:15	Drainage Core Structural Stability
4:15-4:30	Case Histories
4:30-5:00	Writing Wining Specifications for Friction & Transmisivity Testing
5:00-5:15	Q&A and Summary
5:15 pm	Adjourn

TRI REGISTRATION FORM

CQA Course Registration Fees:

- ___ May 09 & 13, both courses, 1 registrant per company \$775.00/person
- ___ May 09 & 13, both courses, 2 registrants per company \$700.00/person
- ___ May 09 & 13, both courses, 3 + registrants per company \$625.00/person

- ___ One course only, 1 registrant per company **Fill course to be taken** _____ \$475.00/person
- ___ One course only, 2 registrants per company **Fill course to be taken** _____ \$425.00/person
- ___ One course only, 3 + registrants per company **Fill course to be taken** _____ \$375.00/person

GCI Exam Fees

- ___ May 09, One applicant only per company \$55.00/person*
- ___ May 09, 2+ applicants per company \$40.00/person*

* These fees DO NOT pay for the exam, only the venue for taking the exam. The GCI exam is part of the GCI CQA technician certification. You MUST REGISTER with the Geosynthetic Institute (GSI) and pay the required certification fee directly to GSI in order to take this exam, (GSI phone: 610-522-8440 or www.geosynthetic-institute.org)

Registrations must be received by **5:00 pm CST, Friday, April 15th, 2011** - \$50.00 /person late fee thereafter. Fee includes: course notes and handouts, morning and afternoon tea, and lunch each day. \$50.00 cancellation fee for refunds requested before April 15th, 2011 -- no refund thereafter. Course notes are NOT sold separately.

Method of Payment: Payment may be made by check, money order, American Express, Visa or MasterCard.

- Check
- Money Order
- Purchase Order

Make check or purchase order payable to TRI/Environmental, Inc.,

Credit Card: American Express Visa MasterCard

Credit Card # _____ Expiration Date: _____

Please direct questions to Mr. John Allen, phone: +01 800 880-8378 or jallen@tri-env.com or cperez@tri-env.com

PLEASE TYPE OR PRINT CAREFULLY

Name	
Position / Company	
Address	
phone / e-mail	
amount paid (\$'s)	
I have registered with GCI & paid the GCI certification fee. I will take the Geosynthetic CQA Exam May 09, 2011 (check=>)	
I have registered with GCI & paid the GCI certification fee, and I will take the Compacted Clay Liner CQA Exam May 09, 2011 (check=>)	

Return Registration & Payment via Mail or Fax to:

TRI, ATTN: Chris Perez
 9063 Bee Caves Road
 Austin, Texas 78733 Fax Number: +01 512 263-2558