

TRI CQA WEEK TAUGHT IN SPANISH

MARCH 18 – 22, 2024

All instruction to be provided
in Spanish language



REGISTER ONLINE: <https://events.eventzilla.net/e/tri-cqa-week--spanish-courses-2138609377>

5 Half-Day Online Sessions

LINER INTEGRITY SURVEYS/ASSESSMENTS

March 18, 2024

CONSTRUCTION QA/QC FOR GEOSYNTHETIC INSTALLATIONS

March 19 – 20, 2024

CONSTRUCTION QA/QC FOR COMPACTED CLAY LINER & GCL INSTALLATION

March 21 – 22, 2024

GEOSYNTHETIC CERTIFICATION INSTITUTE – INSPECTORS CERTIFICATION PROGRAM

(GCI-ICP) EXAM

March 22, 2024



Accredited Geosynthetics Laboratories
Accreditation Designation # GAI-LAP-001

Learn to properly specify and utilize this growing, in-demand service. LISA complements existing services offered by most CQA firms practicing in waste management. Water resource conservation, tank lining, mining, and other containment sectors use LISA too.



LISA PRIMER – Spanish Language / English Slides

March 18, 2024 8:00 am - 12:00 pm CST

A Liner Integrity Survey (Electrical Leak Location) is a state-of-the-art, nondestructive method of locating leaks in installed geomembranes. LIS equipment, rooted in geophysical measurement techniques, tests exposed and soil or water-covered geomembranes. TRI's training course disseminates the theoretical and practical knowledge required to employ and specify the quality of LIS methods and equipment.

The Liner Integrity Surveys/Assessments (LISA) class provides the most up-to-date information on survey methods and standards (e.g., ASTM). It is ideal for design engineers, CQA firms, site owners, and regulators interested in specifying and employing this service.

Professionals who benefit from this course:

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



FIELD CQC / CQA TRAINING – Spanish Language / English Slides

March 19 – 22, 2024

8:00 am - 12:00 pm CST

These two 2-day courses may be taken singly or as a package. They are designed specifically for those who need a detailed understanding of proper CQC and CQA procedures at waste containment facilities.

The courses provide ideal preparation for the Geosynthetic Certification Institute's Inspectors Certification Program (GCI-ICP) exam.

Gain comprehensive understanding of:

- Preparing CQC/CQA plans
- Reviewing CQC/CQA plans
- Performing CQC/CQA observations and tests
- Reviewing field CQC/CQA procedures

Each course presents material that complements the other. Course 1 focuses on installation of geomembranes, geotextiles, geocomposites, geogrids, and geo-appurtenances. It includes discussion of geomembrane seaming and seam peel and shear testing. Course 2 focuses on the installation of compacted clay and geosynthetic clay liners (GCLs). 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 appreciation for the manufacture and installation of containment facility materials will be provided.



GCI-ICP CERTIFICATION EXAMS – Spanish Language / English Slides

March 22, 2024

CQA course students will be allowed to sit for the Geosynthetic Certification Institute-Inspectors Certification Program (GCI-ICP) exams immediately following the CQA courses. All exam-interested students **MUST REGISTER** with the Geosynthetic Institute (GSI) and pay GSI's certification fee before the test. TRI does NOT collect this fee. Contact GSI (+1 610 522 8440) for more information.

EXCEPTIONAL PROFESSIONAL DEVELOPMENT

Thorough training in CQA of geosynthetic installations serves to expand opportunities for engineering consulting and design practice. TRI's Short Course Training Week participants will be provided a certificate of course completion, suitable for use in proposals and statements of qualifications for CQC/CQA work. This unique program provides professional growth and business development opportunities.

ABOUT TRI

TRI/Environmental, Inc. (TRI) has been active in geosynthetics testing, inspection and research and development for 30 years. TRI is an independent, third-party laboratory unaffiliated with any manufacturing, engineering/consulting, or construction management firm.

REGISTRATION

Online registration is available at: <https://events.eventzilla.net/e/cqa-week-2022-2138575712>
ZOOM COURSE LINKS WILL BE EMAILED TO EACH REGISTERED STUDENT ONE WEEK BEFORE CLASS.



Julio Antonio Zambrano Ferreira, Ph.D., Pr.Eng.

Dr. Julio Ferriera
Director of TRI Ambiental

Geotechnical Engineer specialized in Geosynthetics with professional experience in the U.S. and in Brazil, Ph.D. in the U.S. at the University of Texas at Austin (UT-Austin) and Master and Bachelor degree in Brazil at the University of São Paulo at São Carlos (USP-EESC). Dr. Ferreira has been involved for 20 years in research with geosynthetics, geosynthetic manufacturing quality control services in laboratory and in the field, construction quality assurance of installation of geosynthetics in environmental projects and consulting for specification of geosynthetics and full quality plans (quality control and assurance of manufacturing and installation). Mr. Ferreira has experience in conducting field surveys for electrical leak location on installed geomembranes, exposed or covered by liquid or soil, with projects conducted in Brazil and in the USA.

Currently, Mr. Ferreira is the Director of South American Operations of TRI Ambiental Ltda, a TRI Environmental, Inc. company. He is responsible since 2013 for geosynthetic and geotechnical testing reports, quality control and management of more than 1,000 projects with tests performed at TRI Environmental's laboratory in Austin, Texas, USA. Mr. Ferreira is an Official Proctor for the certification exam for polyethylene geomembrane welders, CWT -PE (Certified Welding Technician – Polyethylene) by IAGI.

SCHEDULE

LISA PRIMER March 18, 2024

PART 1: INTRODUCTION TO THE METHODS

8:00 AM	Significance of Electrical Leak Location Testing and Intro to ELL Methods
8:10 AM	Bare Geomembrane ELL Methods
8:40 AM	Covered Geomembrane ELL Methods
10:15 AM	Break

PART 2: SPECIFYING ELL METHODS

10:30 AM	Method Selection
10:45 AM	Covered Geomembrane Specification
11:15 AM	Blind Leaks
11:45 AM	Case Histories – Followed by Closing Q&A

CQA COURSE ONE March 19, 2024

8:00 AM	Introductions
8:15 AM	CQA Principles Philosophy - <i>Responsibilities, appreciation of role, professional considerations and on-site protocol, conflict resolution, etc.</i>
9:00 AM	Intro to Geomembrane Manufacturing and Properties - <i>Polymers to products, material properties, product manufacturing.</i>
10:00 AM	Break
10:15 AM	Geomembrane Seams and Welding Field Testing - <i>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.</i>
11:15 AM	Smart Welders - <i>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.</i>
11:30 AM	Electronic Leak Location (ELL)
12:00 PM	Questions/Answers

SCHEDULE

CQA COURSE ONE March 20, 2024

8:00 AM	Review of Yesterday
8:15 AM	Geotextiles & Geosynthetic Drains - <i>Types and specifications, shipping receiving, unloading, storage & installation</i>
9:15 AM	Geogrids Pipe Erosion Control - <i>Types and specifications, shipping receiving, unloading, storage & installation</i>
10:00 AM	Break
10:15 AM	Installation Protection and Soil Cover
11:15 AM	CQA Paperwork and Record Keeping - <i>Importance of documentation, communication records, examples of record keeping and documentation, checklists</i>
12:00 PM	Questions/Answers

CQA COURSE TWO March 21, 2024

8:00 AM	Liner and Cover Systems - <i>Single liners/double liners/composite liners, leakage rates through soil, composite action with geomembranes, importance of drainage layer properties.</i>
8:45 AM	Compacted Clay Properties- <i>Materials, factors affecting hydraulic conductivity, clod vs. particle orientation theory, keys to low hydraulic conductivity, water content-density criteria, recommended procedures for determining acceptable zone, influence of overburden stress, bonding of lifts, thickness</i>
10:00 AM	Break
10:15 AM	Compacted Clay Liner Construction - <i>Equipment, preprocessing of soil, soil moisture control, sieving, clod control, crushing/pulverizing materials, compaction, test pads.</i>
11:45 AM	Questions/Answers

SCHEDULE

CQA COURSE TWO March 22, 2024

8:00 AM	Review of Yesterday
8:15 AM	GCL History - <i>Commercially-produced GCLs, geosynthetic materials, manufacturing of GCLs, manufacturing quality control, recommended specifications.</i>
9:15 AM	Bentonite Measurements - <i>Measures of and tests for bentonite quality, recommended specifications for bentonite in GCLs, contaminant-resistant bentonite.</i>
10:00 AM	Break
10:15 AM	Installation of GCLs - <i>Transportation, handling, storage, subgrade preparation, placement procedures, seaming protection, construction quality control and assurance, observations, types of tests, frequency of testing, field case history.</i>
11:00 AM	Questions/Answers

SCHEDULE

GCI-ICP EXAM – In Spanish March 22, 2024

12:00 PM	Online Exam Geosynthetics
2:00 PM	Break
2:15 PM	Online Exam - Compacted Clay Liners

Information regarding exams

- ALL students wishing to sit for the exam(s) MUST FIRST register for certification through the Geosynthetic Institute (GSI) and pay the applicable fees directly to GSI (phone: +1-610-522-8440). GSI registration must be received by the GSI 7-10 days before the exam(s).

Time allowance and structure

- Students will be given two hours to take the geosynthetic test. One must answer 70% of the questions correctly in order to pass. Only one correct answer is possible for each question.
- Students will be given one hour to take the compacted clay liner test. At least 70% of the questions must be answered correctly in order to pass. There is only one correct answer for each question.
- The test is a multiple-choice test. Students must choose the correct answer (and only one answer) for each question. They must not select multiple answers for the same question.



SHORT COURSE TUITION / GCI EXAM COST (SEE REGISTRATION FORM)

FOR REGISTRATIONS BEFORE March 8, 2024. *\$50 additional per registration thereafter.*
CQC/CQA Short Courses and CQA Exam

Liner Integrity Survey Short Course

Mar. 18 - 1 registrant per company \$450.00/person

Save 5% on 2 or more registrations to the class

CQC/CQA Short Courses

Both courses, 1 registrant per company \$725.00/person

Save 5% on 2 or more registrations to the class

Only one course, 1 registrant per company \$500.00/person

Save 5% on 2 or more registrations to the class

Both courses, government \$350.00/person

One course (day) only, government \$300.00/person

Government Special! Save 10% on 2 or more registrations to the class

GCI EXAM March 22, 2024

TRI fee for one applicant only per company \$100.00/person*

TRI fee for 2+ applicants per company \$75.00/person*

**The exam costs above DO NOT reflect the TOTAL cost for sitting for the GCI exam, only TRI's exam proctoring cost. 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 its required certification fee in order to take this exam. TRI does NOT collect the fee for GSI; that fee must be paid directly to GSI. Call +1 610-522-8440 for more information.*

REGISTER ONLINE

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