PROFESSIONAL INSTALLERS — PROFESSIONAL INSTALLATIONS

Summer 2011

Volume 11, Issue 1

IAGI Newsletter

NEWS, NOTES AND RESOURCES FROM IAGI

A Note from IAGI's President—Brian McKeown

Brian McKeown,
IAGI President

Dear IAGI Members,

Several IAGI members have approached the association with questions regarding occupational exposure to titanium dioxide. Titanium dioxide is used in white geomembranes and members expressed concern about their workers inhaling titanium dioxide during grinding. Boyd Ramsey, Chief Engineer at GSE provides an explanation about the use of titanium dioxide in geomembranes and the exposure associated with this additive.

This spring there was an unexpected vacancy on the Board of Directors. Max Brady, DDT Liners was nominated to the Board to complete the term. He will serve the remainder of 2011. Chris Eichelberger was elected to serve as treasurer for the remainder of 2011. My personal thank you to Max and Chris for volunteering their time to IAGI.

Speaking of the IAGI Board, it is time for elections again. Each year four board seats open up for election. Given how busy everyone is, it is amazing how many talented people are willing to volunteer their time to serve this organization. Most Board meetings are held via telephone conference call. If you are interested in serving on the Board, please let me or Laurie Honnigford know right away. I expect a slate of candidates to go out at the end of October.

It remains a challenging business climate. The geosynthetic industry seems to be weathering the downturn better than some industries. I hope your projects are going well.

All my best,

Brian McKeown

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IAGI's Installation Awards Winners

During the GeoFrontiers 2011 conference, the International Association of Geosynthetic Installers announced the winners of IAGI's first Installation Awards of Excellence Program. Three awards were given: Extreme Project Award, Innovative Project Award and the Award of Excellence. Brian McKeown, IAGI President, presented the awards during a ceremony honoring the winners.

Hand Blown Glass Awards were presented to the winners

The entry that received the highest number of votes in the Extreme Project category was Colorado Lining International (CLI) for the Olympic View Sanitary Landfill – Floating Leachate Cover in Port Orchard, WA USA. This project consisted of fabrication and installation of a Defined Sump Floating Cover with gas venting. The purpose of the cover installation was to prevent the mixing of rain water and leachate in the landfill collection ponds.

CLI had many factors to consider including seasonality, complicated design/build, limited and difficult access to the pond, and keeping the collection pond in service during construction. Even with those issues, CLI was able to complete the cover promptly and within the client's budget. A savings of $175,000 to $200,000 per year was calculated for treatment and transportation costs based upon yearly rainfall.

This year's award winner in the Innovative Project category was Servicios de Ingeniería Geosintética, S.A. (S.I.G.S.A.) for the P.H. El Llano – Relin-

John Heap accepted Colorado Lining International's Award for the Olympic View Sanitary Landfill Floating Leachate Cover.

Nicky Araujo accepted the IAGI Installation Award on behalf of S.I.G.S.A. for the Innovative Project Category.

IAGI's Installation Awards Winners (continued)

2011 Award winners of IAGI's Installation Awards Program

P.H. El Llano—Relining of Reservoir, Orosi Cartago, Costa Rica

ing of Reservoir in Orosi Cartago, Costa Rica.

The El Llano Generating Station, owned and operated by the Instituto Costarricense de Electricidad (I.C.E.) has been in operation for over 30 years and the reservoir or catch basin had originally been lined with CPE. With time the liner had deteriorated significantly and needed to be replaced. One challenge with this project was that to do the work, the Generating Station would have to be put out of service when other hydro units were producing at their peak. This meant that work had to be done during the months of heaviest rainfall. Special accommodations were engineered to keep the area being welded dry.

The entry that received the highest number of votes from either category is the Award of Excellence winner. The Award of Excellence winner for 2011 was CETCO Contracting Services for the Pennsylvania Department of Transportation I-99 State College, PA.

The project involved the construction of a four-lane limited access highway with 4 interchanges and approximately 18 miles of roadway. The project was part of a much larger transportation project to extend I-99 to I-80. Section 12 of the project extended from North Bald Eagle Creek to the

Installation Awards Winners (continued)

Mount Nittany Expressway.

The total area lined was just over 40 acres and the contract value was over $20 million. The large cut face was a 400 foot-long 1:1 slope that was lined without any penetrations to the geomembrane. The cross sections consisted of a specialty geogrid embedded nonwoven, 40mil HDPE, 16 oz/sy nonwoven and 4 inch geocell. This was supported by stainless steel cables that are connected to soil nails. Crews attended rock repelling safety classes for a week prior to starting the installation.

Olympic View Sanitary Landfill — Floating Leachate Cover, Port Orchard, WA USA

"Perhaps the most satisfying recognition that an individual in any profession can achieve is peer recognition of accomplishments," commented Brian McKeown. "This type of recognition is not only gratifying but frequently is the spur to even greater accomplishment within the company's associates and the general public."

The Awards Ceremony was held during the GeoFrontiers Conference in Dallas, TX. IAGI also held a General Assembly meeting after the awards ceremony.

The next Awards Program will be held in 2013. Members are encouraged to get pictures and details of projects they are working on this year for submission next year. The entry form will be available in early January 2012.

PA DOT I-99, State College, PA USA

Awards Reception & General Assembly

Members of IAGI gathered to celebrate the IAGI Awards program and to hold the Annual Membership meeting. The Board of Directors reviewed the association's financial position, activities of the Latin American chapter and the activities of the Australian Chapter. A discussion was held on the renewal process for the Certi-

Continued on page 6

(left to right): Fernando Cruz, Pete Balderrama, Anne Steacy, Irene Rocha.

IAGI President Brian McKeown presented the Award of Excellence to Archie Filshil for CETCO's I-99 Project.

Thank you Sponsors!

IAGI is grateful to the sponsors who have supported the IAGI Installation Awards (I^2A) program.

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Awards Reception & General Assembly (cont.)

fied Welding Technicians (CWT's). Brian McKeown reminded members that meetings are also being held via webinar. The times for these meetings varies so people from around the world can participate in the IAGI meetings.

The next webinar will be held on November 16, 2011 starting at 5:00 p.m. central standard time (US). All members are welcome to attend the webinar.

Greg Scales and Wayne Farrow

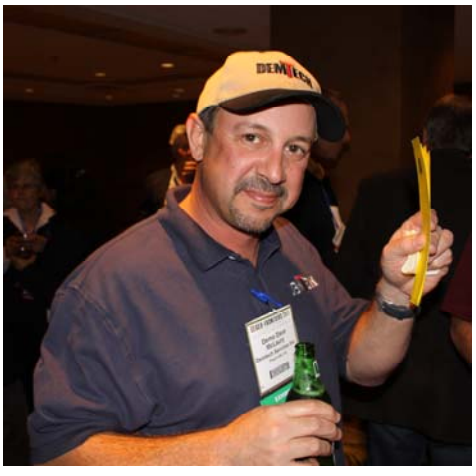
Carl Apicella and Bob Groh

Brian McKeown and David Leggett

Bill Johnson and Fred Struve

Ron Frobel and Ron Bygness

Marco Araujo Leal



"Demo" Dave McLaury

Titanium Dioxide Exposure Explained

By Boyd Ramsey

In April, 2011 the Department of Health and Human Services, Centers for Disease Control and Prevention and the National Institute for Occupational Safety and Health issued a technical bulletin titled "Occupational Exposure to Titanium Dioxide" (linked here: http://www.cdc.gov/niosh/docs/2011-160/pdfs/2011-160.pdf) Within that document they issued updated exposure limits for fine and ultrafine particulates of TiO2 (titanium dioxide), Specifically:

" NIOSH recommends exposure limits of 2.4 mg/m3 for fine TiO2 and 0.3 mg/m3 for ultrafine (including engineered nanoscale) TiO2, as time-weighted average (TWA) concentrations for up to 10 hours per day during a 40-hour work week…"Fine" is defined in this document as all particle sizes that are collected by respirable particle sampling (i.e., 50% collection efficiency for particles of 4 μm, with some collection of particles up to 10 μm). Fine is sometimes used to refer to the particle fraction between 0.1 μm and approximately 3 μm [Aitken et al. 2004], and to pigment-grade TiO2 [e.g., Lee et al. 1985]. The term "fine" has been replaced by "respirable" by some organizations, e.g., MAK [DFG 2000], which is consistent with international sampling conventions [CEN 1993; ISO 1995]. "Ultrafine" is defined as the fraction of respirable particles with primary particle diameter <0.1 μm (<100 nm), which is a widely used definition.

Pertaining to the use of white geosynthetic materials, that is likely both more information than you might want, and certainly more information than is needed. The key to this issue as it relates to geosynthetics and those who work with them is particle size and the encapsulation of TiO2 as it is used by both geosynthetic manufacturers and geosynthetic users.

The particle size range that has been investigated and is described above includes very small particles of TiO2. The units are 4 μm to 100 μm (also known as a micron, or micrometer: 4 μm equals 1.6 X 10 -4 inches). For comparison purposes talcum powder has a particle size of ~ 10 μm (microns) and a human hair is ~ 70 μm (microns). These are extremely small particles and these particle sizes are not generated in the geosynthetics production or installation processes.

This encapsulation serves to dramatically reduce the exposure to the titanium dioxide particles and thus alleviate the health and safety concern.

In fact, the geosynthetic manufacturing processes utilize TiO2 that is encapsulated into a masterbatch or a plastic matrix that contains the particles. Further, this masterbatch is further dispersed and encapsulated into the geosyn-

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Titanium Dioxide Exposure Explained (cont.)

thetic material itself. This encapsulation serves to dramatically reduce the exposure to the titanium dioxide particles and thus alleviate the health and safety concern. In fact, geosynthetic products are classified as an "article" according to Title 29 of the Code of Federal Regulations, OSHA Part 1916.1200 (c). They are formed to a specific shape or design during manufacture, have end use functions dependent upon their shape or design, and do not release any hazardous chemical under normal conditions of use. It should also be mentioned that this same situation has existed with carbon black particles and black geomembrane for decades. Fine particle size carbon blacks are classified as potential carcinogens; their encapsulation within the polymer matrix eliminates the concerns of inhalation hazards.

Clearly good health and safety practices should be followed and every effort should be made to avoid the consumption and inhalation of geosynthetic materials. With safe installation and manufacturing protocols our industry can provide environmental solutions and protect all those who participate in our industry.

"Uncle Bill"— CWT Testing Around the World

"Uncle Bill" also known as William Steinke has been busy proctoring CWT exams around the world. His latest was at PT. TEKNINDO GEOSISTEM UNGGUL, in Surabaya Indonesia. Since the exam was translated into the Indonesian language, IAGI has had a lot of interest in CWT testing Indonesia.

Uncle Bill explaining the rules for testing samples.

Where will Uncle Bill's next adventures take him? While he was in Indonesia an old friend looked him up and asked him to proctor his welders in Vietnam. This testing will occur just as soon as the polyethylene exam is translated into Vietnamese. IAGI has started the process of getting the translation done. A notice will be sent to members when the exam is ready.

Test Candidates at PT. TEKNINDO GEOSISTEM UNGGUL

Front (Left to Right): Fahar Sykustyono, Rudi Hermawan, Asta Kusumaningtyas Asmara, Uncle Bill Steinke, Sagita L. Jannati, Arif Pristiawan, Muhamat Agus.

Back (Left to Right): Sidik Ananto, Tunjung Suprayoga, Ferianto, Priyanto, Gini Sugianto, Heri Kuswanto, FX Aris Prasetyanto, Suminto.

Welder taking the hands on portion of the exam at PT. TEKNINDO GEOSISTEM UNGGUL

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IAGI offers members money saving programs with YRC and OfficeMax. One program available in North America is through Yellow (Freight) and Roadway. By signing up for this service, your company can save money on shipping. .

To participate in these programs contact:
Ben Oglesby
Marketing Coordinator
YRC North American Transportation
Office: +1 913-344-5702
Fax: +1 913-891-4986

Below is an example of potential savings:
EXAMPLE #1: Kansas City, KS → Las Vegas, NV (350 lbs standard pallet)
Exhibit Contractor quote: $1071
IAGI YRC Program quote: $550
Member Savings: $541

EXAMPLE #2: Kansas City, KS → Chicago, IL (350 lbs standard pallet)
Exhibit Contractor quote: $948
IAGI YRC Program quote: $309
Member Savings: $639

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New Members

We would like to welcome our new members to the International Association of Geosynthetic Installers. Members are the foundation of IAGI, and we look forward to working with you to advance installation and construction technologies and to strengthen the knowledge, image and communication within the industry. We value your membership and look forward to your input.

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International Association of Geosynthetic Installers

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IAGI thanks Kenny Tran for translating the Certified Welding Technician test and all associated documents into the Vietnamese language. Kenny volunteered his time and completed the translation recently. IAGI appreciates the dedication of such individuals in serving the industry.

Approved Installation Contractors

AIC Mission Statement

To establish criteria for recognizing the geosynthetic installation companies that meet a minimum level of professionalism, experience and business practices. The program's goal is to promote growth in the geomembrane installation industry and promote better quality workmanship.

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DDT Liners

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New England Liner System Inc.

Polilainer de Mexico S.A. de C.V.

Soluciones Ambientales Integrales, S.A. De C.V.

Titan Environmental Containment Ltd.

Note: IAGI welcomes new product announcements. Please send to Sally Perillat at info@iagi.org. A maximum of 100 words and one picture will be included.