

# AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS

## *Northeast Section* **NEWSLETTER** *Spring 2019*

*As published on 5/13/2019.*

Take a look at what  
the Section is doing:  
January Meeting  
Minutes **HERE!**



Are you ready for the  
**ANNUAL MEETING!**

A Walk Through The  
Giants Causeway

[www.ne-aipg.org](http://www.ne-aipg.org)



## EXCELLENCE ON EVERY LEVEL™

CASCADe provides a full range of environmental and geotechnical drilling, site investigation and characterization, and environmental remediation technologies. Our vision is to integrate technology, safety, sustainability and human potential to tackle the challenging environmental and geotechnical issues facing our clients.

## YOUR PARTNER FROM CONCEPT TO CLEAN UP

### DRILLING

environmental, geotechnical, utility clearance, IDW, sonic, auger, rotary, direct push

### SITE CHARACTERIZATION

high resolution site characterization, sampling, data visualization, MIHPT, UVOST, CORE<sup>DFI</sup>™, WATERLOO<sup>APS</sup>™, OIP™

### REMEDIATION

in situ, ex situ, collaborative design, thermal, chemical, biological, emplacement

### CONTACT

#### ADT

Environmental & Geotechnical Drilling

**Bill Poupis**

516-616-6026 EXT 105

wpoupis@aquiferdrilling.com

#### CASCADe

Strategic Account Manager

**Jay Boland**

M: 413-329-7525

jboland@cascade-env.com

VISIT US TODAY AT [WWW.CASCADe-ENV.COM](http://WWW.CASCADe-ENV.COM) TO LEARN MORE

With Cascade offices across the United States, subsidiaries and international partners, we deliver reliable services **nationwide.**

# DRILEX

## ENVIRONMENTAL



## **Drilex Environmental is one of New England's premier drilling companies**

Drilex Environmental was established in 1995 and is one of New England's fastest growing, premier, full service Drilling and Environmental Construction companies. We are a quality drilling company, able to meet the ever changing needs of our clients.

[www.drilexenv.com](http://www.drilexenv.com)



Hartwell Business Park • 127 Hartwell Street • West Bovlston. MA  
508-835-6724 • Fax: 508-835-6734

# AIPG NORTHEAST SECTION NEWSLETTER

## SPRING 2019 EDITION No. 156

PUBLISHED BY THE NORTHEAST SECTION OF THE AMERICAN  
INSTITUTE OF PROFESSIONAL GEOLOGISTS

### TABLE OF CONTENTS:

2019 NE/AIPG Executive Committee Directory .....	<u>5</u>
2019 Executive Committee Meeting Schedule .....	<u>7</u>
2019 Index of Advertisers .....	<u>8-9</u>
Presidential Ramblings .....	<u>11</u>
Annual Meeting Announcement—Burlington, Vermont .....	<u>15</u>
A Look at Columnar Basalts: The Giants Causeway .....	<u>22</u>
AIPG Mission Statement .....	<u>25</u>
Piggybacking for Advertisers .....	<u>42</u>
Upcoming Events and Classes .....	<u>48</u>
The Rocks of Vermont .....	<u>51</u>
January Meeting Minutes .....	<u>69</u>
When in Vermont—Part 2 .....	<u>73</u>
NE AIPG 2019 Publication Schedule .....	<u>82</u>
ATMG Scholarship List of Contributors .....	<u>83</u>
ATMG Scholarship Overview .....	<u>86</u>
Angelo Tagliacozzo Scholarship Perpetual Trust Fund Contribution Form <i>(Please contribute now!)</i> .....	<b>Last Page</b>

#### NEWSLETTER EDITOR

Brandon Tufano  
Roux Environmental Engineering  
and Geology, D.P.C.  
209 Shafter Street  
Islandia, NY 11749  
631-630-2347 (Office)  
570-702-9992 (Cell)  
btufano@rouxinc.com



#### PUBLISHER & ADVERTISING MANAGER

Dick Young  
Consulting Geologists, LLC  
179 Intervale Road  
Parsippany, NJ 07054  
973-335-2289 (Office)  
973-335-9799 (Fax)  
RYoungNJ@aol.com

The Newsletter of the Northeast Section of the American Institute of Professional Geologists is digitally published four times annually at [www.issuu.com/neaipg/docs](http://www.issuu.com/neaipg/docs). Design and layout by Brandon Tufano and Dick Young. Section Members and Advertisers are alerted to each issue by e-mail. Many thanks are extended to all who helped in compiling this issue.

## **2019 NEAIPG EXECUTIVE COMMITTEE AND SUBCOMMITTIES**

### **PRESIDENT**

Michael G. Grifasi, CPG-11489  
FPM Remediations, Inc.  
181 Kenwood Ave  
Oneida, NY 13421  
Office: (315) 336-7721 X215  
Fax: (917) 336-7722  
Cell: (917) 767-2662  
Email: m.grifasi@fpm-remediations.com

### **PRESIDENT ELECT**

Jennifer Becker, MEM-2805  
HDR Inc.  
1 International Blvd  
Floor 10  
Mahwah, NJ 07495  
Work: (201)-335-9336  
Cell: (845)-664-5218  
jennifer.becker@hdrinc.com

### **PAST PRESIDENT**

Jessica McEachern, CPG-11869  
37 Spencer Street W  
Farmingdale, NY 11735  
Office: (516) 694-5212  
E-mail: geode78@verizon.net

### **SECRETARY**

Adelina E Prentice, MEM-3075  
FPM Remediations Inc.  
181 Kenwood Ave  
Oneida, NY 13421  
Work: 315-336-7721 ext 228  
Fax: (315) 336-7722  
Email: a.prentice@fpm-remediations.com

### **TREASURER**

Robert P. Blauvelt, CPG-06508  
GEI Consultants  
300 Broadacres Dr, Suite 100  
Bloomfield, NJ 07003  
Office: (973) 873-7127  
Cell: (973) 803-0167  
Fax: (973) 509-9625  
rblauvelt@geiconsultants.com

### **MEMBERS**

Christopher Brown, CPG-10599  
PVE Sheffler, LLC  
48 Springside Avenue  
Poughkeepsie, NY 12603  
Office: (865) 454-2544  
Cell: (914) 475-2650  
E-mail: cbrown@pvessheffler.com

Brandon Tufano, MEM-2954  
Roux Environmental Engineering and Geology,  
D.P.C.  
209 Shafter St.  
Islandia, NY 11749  
Office: (631) 630-2347  
E-mail: btufano@rouxinc.com

### **Member at Large**

Jeff Frederick, CPG-10989  
The Louis Berger Group, Inc.  
565 Taxter Rd., Suite 510  
Elmsford, NY 10523  
Office: (914) 798-3762  
Email: jfrederick@louisberger.com

Laurie Scheuing, CPG-09898  
46 Homestead Rd  
Saratoga Springs, NY 12866-5808  
Office: (518) 695-9445  
E-mail: lescheuing@aol.com

Luanne Whitbeck, CPG-07923  
P.O. Box 637  
Singerlands, NY 12159  
Office: (518) 475-1008  
E-mail: Luanne.whitbeck@gmail.com

Kelly A. Weyer, CPG-11826  
Clean Globe Environmental LLC  
PO BOX 1895, New City, NY 10956  
Office: 1-888-454-5923, Ext. 700  
kweyer@cg-env.com

### **SCREENING BOARD CHAIRMAN**

Charles A. Rich, CPG-04433  
CA Rich Consultants, Inc.  
17 Dupont Street  
Plainview, NY 11803-1602  
Office: (516) 576-8844 Fax: (516) 576-0093  
E-mail: crich@carichinc.com

### **NEWSLETTER EDITOR**

Brandon Tufano, MEM-2954  
Roux Environmental Engineering and Geology,  
D.P.C.  
209 Shafter St.  
Islandia, NY 11749  
Office: (631) 630-2347  
E-mail: btufano@rouxinc.com

### **DIRECTORY OF MEMBERS EDITOR**

Curtis A. Kraemer, CPG-06019  
111 Van Cedarfield Road  
Colchester, CT 06415  
Office: 860-861-4644  
email: curtkraemer@comcast.net

### **PUBLISHER & ADVERTISING MANAGER**

Richard H. Young, CPG-03356  
Consulting Geologists, LLC  
179 Intervale Road  
Parsippany, NJ 07054  
Office: 973-335-2289  
Fax: 973-335-9799  
E-mail: ryoungnj@aol.com

### **WEBMASTER**

Jessica McEachern, CPG-11869  
37 Spencer Street W  
Farmingdale, NY 11735  
Office: (516) 694-5212  
E-mail: geode78@verizon.net

*(Executive Committee continued on page 7)*



# **Delta Well & Pump co., Inc.**

**WATER AND ENVIRONMENTAL DRILLING**

97 Union Avenue PO Box 1309 Ronkonkoma, N.Y. 11779

**Phone: (631) 981-2255**

**Fax: (631) 981-2369**

Delta serves municipal and industrial customers

Providing a full range of drilling capabilities



*(Executive Committee continued from page 5)*

**2019 NORTHEAST SECTION SUBCOMMITTEES** *(As updated 2/6/2019)*

**Advertising Sales:** Dick Young

**Advisory Board Delegate:** Jeff Frederick

**Financial Planning and Treasury:** Bob Blauvelt, Dick Young

**Legislative Liaison and Registration:** Tom West (NY), Russell Slayback (CT), Sam Gowan (NY), Tim Stone (NY), Dorothy Richter (NH), Laurie Scheuing (NY)

**Membership:** Open

**Mentoring:** Dennis McGrath (Chairperson), Chris Brown

**Nominating:** Bob Blauvelt, Dennis McGrath

**Public Affairs:** Dennis McGrath (Chairperson)

**Scholarship:** Dennis McGrath (Co-Chairperson), Chris Brown (Co-Chairperson), Sam Gowan, Dean Herrick, Craig Werle, Tom West, Kelly Weyer.

**Section Directory:** Curt Kraemer, Editor, Dick Young, Publisher

**Section Meetings:** Jessica McEachern, Bob Blauvelt, Chris Brown

**Section Newsletter:** Brandon Tufano, Editor; Dick Young, Publisher

**Screening Board:** Charles Rich (Chairperson); Don Bruehl, Carol Graff, William Penn, Daniel Toder, Andrew Tolman, William Prehoda

**2019 Executive Committee Meeting Schedule:**

January 7<sup>th</sup>

March 11<sup>th</sup>

May 13<sup>th</sup> (date moves to accommodate Spring Meeting on-site)

July 8<sup>th</sup>

September 16<sup>th</sup> (or September 17<sup>th</sup> during National Meeting @Burlington)

October 7<sup>th</sup>

December 9<sup>th</sup>

*Meetings are typically held from  
4:00 to 6:00 pm via teleconference.*

*(End)*

**2019 INDEX OF ADVERTISERS**

AARCO Environmental Services Corp ..... 26  
 AECOM ..... 63  
 Allegheny Instruments, Inc ..... 34  
 Alpha Analytical..... 75  
 Alpha Geoscience ..... 77  
 Arcadis ..... 41  
 Atlantic Screen & Mfg., Inc..... 55  
 Badger Injection Solutions ..... 19  
 Boyd Artesian Well Co., Inc ..... 59  
 Brinkerhoff Environmental Services, Inc ..... 34  
 Cascade Drilling ..... *Inside Front Cover...* 2  
 CHA ..... 80  
 Church, Stephen B., Co..... 81  
 Complete Environmental Testing, Inc..... 77  
 ConeTec, Inc ..... 47  
 Connecticut Test Borings, LLC ..... 77  
 CSG Environmental Consultants ..... 46  
 Delta Well & Pump Co., Inc ..... 6  
 Directional Technologies, Inc..... 54  
 Drilex Environmental, Inc ..... 3  
 EAI, Inc..... 64  
 Eastern Analytical, Inc ..... 20  
 EnviRent Corporation ..... 57  
 Enviroscan ..... 43  
 Envirosite Corporation ..... 28  
 EWMA ..... 57  
 FPM-Remediations ..... 72  
 Gannett Fleming ..... 24  
 GEI Consultants, Inc..... 79  
 General Borings, Inc..... 40  
 GEOD Corporation ..... 14  
 Geophysical Applications, Inc ..... 56  
 GEOSPHERE Environmental Management, Inc. .... 72  
 Geologic Mapping and Resource Evaluation, Inc..... 35

*(Index of Advertisers continued on page 9)*

## **2019 INDEX OF ADVERTISERS**

Hager GeoScience, Inc .....	<u>59</u>
Hager-Richter Geoscience, Inc .....	<u>27</u>
Haley & Aldrich .....	<u>42</u>
Hetager Drilling, Inc. ....	<u>21</u>
Island Pump and Tank .....	<u>40</u>
Layne Christensen Company .....	<u>30</u>
Leggette, Brashears & Graham, Inc. ....	<u>85</u>
Lincoln Applied Geology, Inc. ....	<u>62</u>
McLane Environmental, LLC .....	<u>20</u>
MC Environmental, LLC .....	<u>62</u>
Maine Test Borings .....	<u>28</u>
Mott MacDonald .....	<u>74</u>
NAEVA Geophysics, Inc. ....	<u>65</u>
New England Boring Contractors of CT., Inc. ....	<u>29</u>
Pennsylvania Drilling Company .....	<u>66</u>
Probe Support Services .....	<u>10</u>
PVE .....	<u>47</u>
Quantitative Hydrogeology, Inc .....	<u>28</u>
Regenesis .....	<u>80</u>
Rich, C. A., Consultants, Inc .....	<u>85</u>
Richter Geology PLLC .....	<u>24</u>
Roux Associates, Inc .....	<u>11</u>
SGS Environmental Services, Inc. ....	<u>56</u>
SJB Services, Inc. ....	<u>46</u>
Soil Mechanics Drilling Corporation .....	<u>53</u>
Soiltesting, Inc. ....	<u>63</u>
StoneHill Environmental, Inc .....	<u>21</u>
Stothoff, Samuel, Company, Inc .....	<u>66</u>
Summit Drilling Co., Inc .....	<u>76</u>
Tectonic Engineering .....	<u>29</u>
Terracon .....	<u>78</u>
TRC Environmental Corporation .....	<u>79</u>
X-ray Utility Locating Service .....	<u>67</u>
Zebra Environmental .....	<u>58</u>

[www.geoproberentals.com](http://www.geoproberentals.com)

# Geoprobe® Rentals

[info@rentaprobe.com](mailto:info@rentaprobe.com)  
[www.geoproberentals.com](http://www.geoproberentals.com)

*Long Term  
Rental  
Discounts*



**TRAINING Available**

7822DT TRACK • 7720DT TRACK  
6620DT TRACK • 54LT Track  
540MT & 420M Portable  
54TR Tractor • Grout Pumps  
Manual Slide Hammers • Trailers  
Tooling • Liners • Mob/Demob

*Providing various direct push  
Geoprobe® machines designed  
for unique environmental  
settings including wetlands,  
shoreslines, residential grounds,  
inside buildings and basements  
and more...*

**888•215•4666**

**PROBE**  
SUPPORT SERVICES

[www.geoproberentals.com](http://www.geoproberentals.com)

[www.rentaprobe.com](http://www.rentaprobe.com)



**Presidential  
Ramblings  
April 2019  
By Michael Grifasi**



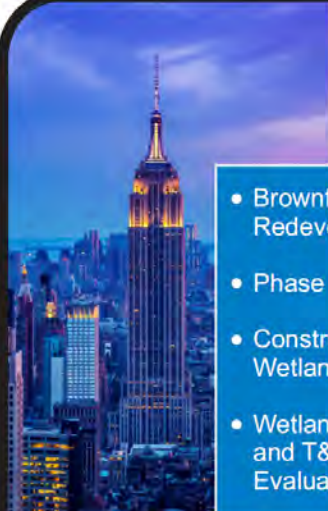
Presidential Ramblings – Spring 2019

**Origins of Geology**

Happy Spring to all of you? I ask because many of us in the Northeast are yet to be convinced that Spring will actually arrive in 2019, especially us fools shoveling snow on April 1st. Perhaps things will have changed by publication?

A couple of weeks ago I attended “STEM Night,” an annual event held at the school my children attend in Syracuse. I watched kids pick apart owl pellets with plastic tweezers, build and race LEGO®

*(Ramblings continued on page 12)*



**ROUX**

*Environmental Consulting & Management*

- Brownfield Redevelopment
- Phase I & Phase II ESAs
- Constructed Treatment Wetlands
- Wetland Delineations and T&E Evaluation/Permitting
- Petroleum Remediation
- Stormwater/Wastewater Management
- Remediation Designs
- Litigation Support

*We Solve Our Clients' Most Challenging Environmental Problems*

**For more info: 1.800.322.7689 or [www.rouxinc.com](http://www.rouxinc.com)**

California • Illinois • Massachusetts • New Jersey • New York • Texas

*(Ramblings continued from page 11)*

cars, and construct crystalline structures with straws and marshmallows (mostly galena and halite). The joy of watching young minds engage in scientific investigation was beyond satisfying. I stood there and marveled at the benefits of communities focused on science in education, of children being introduced to awe-inspiring ideas, and, most importantly, how exposure to science at a young age could very well inform future pursuits.

I know my story. I don't think it's unique in any way but it's important to me, and important enough that I credit it with being instrumental in having gotten me to where I am today. In San Diego in the 1980s, I lived about twenty minutes away from my grandparents. My grandfather, Dutch, lived in San Diego but spent weeks at a time working at what was then called the Marine Corps Air Ground Combat Center in Twentynine Palms, California. On occasion, I would serve as his co-pilot in his Toyota pickup as we drove three hours from Mira Mesa, beyond the avocado orchards and, at the time, ostrich farms, to his apartment in the high desert.



*L: Dutch in Lone Pine, CA (1995); R: Dutch in Death Valley, CA (Circa 1990)*

*(Ramblings continued on Page 13)*

*(Ramblings continued from page 12)*

It was during that first trip to Twentynine Palms when Dutch took me to Joshua Tree National Park that I was awed. Dutch worked extensively with electrical systems associated with military weaponry as well as with proto-drones, then known as Remotely Piloted Vehicles (RPVs). A brilliant mind, no doubt, but not a geologist so we didn't talk about pegmatites or plutonic intrusions or joint systems or anything like that. We'd explore old mining sites, climb through mazes of boulders, and search for Native American artifacts.

I had questions though, which kept me coming back. Questions peaked my interest in geology and were a critical factor in my selected major as an undergrad. However, it wasn't just that I had questions - I also experienced joy in asking them and joy in getting closer to the answers. It was the pursuit of this information that created a satisfaction that has lived with me through to this day.



*L: Young Me in Joshua Tree (1986); R: Less younger Me in Joshua Tree (1993)*

*(Ramblings continued on Page 17)*



**GEOD** CORPORATION

AERIAL PHOTOGRAMMETRY • LAND SURVEYING • SUE

***GEOD OFFERS YOU:***



*Photogrammetric Mapping • GIS Base Mapping*



*Subsurface Utility Mapping*



*Land & Engineering Surveying*



*Construction Surveys*



*Laser Scanning*

**24 Kanouse Road, Newfoundland, NJ 07435**  
**Telephone: 973-697-2122 ■ Fax: 973-838-6433**  
**Email: [marketing@geodcorp.com](mailto:marketing@geodcorp.com)**  
**Website: [www.geodcorp.com](http://www.geodcorp.com)**



# The American Institute of Professional Geologists NORTHEAST SECTION

American Institute of Professional Geologists - Northeast Section

AIPG National Conference  
Burlington, VT  
September 14-17th, 2019

*Rock of Ages Corp. Mine*



All,



This year, the 56th meeting of the American Institute of Professional Geologists National Conference is being held in the beautiful city of Burlington, Vermont.

Please set aside September 14th to the 17th to attend this year's conference, "**Geology in the Green Mountains: Scenic Beauty and Economic Engine.**"

*(Meeting Announcement continued on page 16)*

*(Meeting Announcement continued from page 15)*

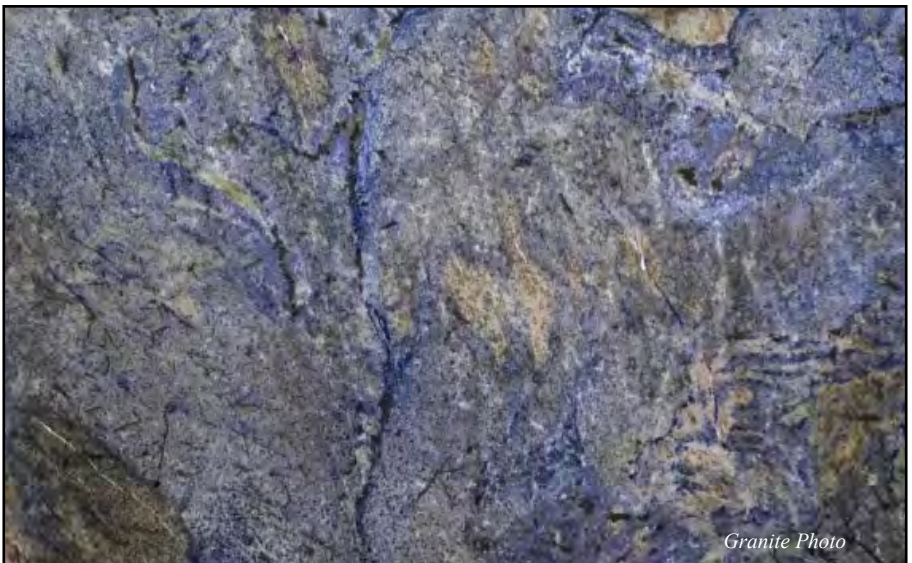
The Northeast section is co-hosting the event and we are excited to show off everything we have to offer to our national audience. The AIPG National Conference is traditionally known for high quality field trips. National meetings often host up to 8 different field trips during the meeting, and they are very well attended. Our members come from all corners of the US, North America, and Europe to see the local geology and experience unique geologic terrains. Our membership includes geologic educators, environmental consultants, and mining/oil and gas geologists, to name a few specialties. Many of our members will not have experienced the Green Mountains, the Adirondacks, Lake Champlain, or any of the amazing quarries, famous road-cuts, and beautiful scenery we all take for granted.

Sincerely,

Jeffrey Frederick, PG, CPG

Please keep an eye on your e-mails as updates on field trips, courses, and other pertinent information will be distributed by the Newsletter and [info@neaipg.org](mailto:info@neaipg.org).

*(End)*



*(Ramblings continued from page 13)*

Dutch didn't have a plan to make me fall in love with geology. However, when he found out I was going to become a geologist, he was in no way surprised. What Dutch did was expose me to something wonderful that lit the fire to ask questions, to search for answers, and, ultimately, to inform my future pursuits. It sounds lovely and romantic and wise and all of that, it really does. But the simple truth is that Dutch just wanted to spend time with his grandson. Everything else was fringe.

Fast forward to the present. Having recognized the benefit of exposing developing minds to the wonders of the world, my wife and I never hesitate to slow down and let the kids take a look (unlike Dutch, I can answer most of the rock questions). At home, the kids make potions (mostly flour, food coloring, and spices), collect specimens outdoors (rocks, seeds, bugs, etc.), as well as explore secret hideouts (specifically, one nearby storm runoff system large enough for me to crawl through).



*L: Niagara Falls, NY; M: Joshua Tree, CA; R: Herkimer Diamond Mines, NY*

*(Ramblings continued on Page 18)*

*(Ramblings continued from page 17)*

And perhaps it is in one of these moments when my son or daughter will ask a question that starts them on the path towards their future passion(s) in life—not that it has to be. I get to spend time with them, so anything else is fringe.



*L: Red Rock Canyon, NV; M: La Brea Tar Pits, CA; R: Mackworth Island, ME*

Do you have an origin story you'd like to share? E-mail me at [m.grifasi@fpm-remediations.com](mailto:m.grifasi@fpm-remediations.com)



*(End)*



## HOW DO YOU ACCESS DIFFUSION LIMITED PORE-SPACE?

With **COMPLETE CONTROL** of injection **DIRECTION**, **RADIUS**, and **VELOCITY**.

From the grounds of Space Launch Complex 15 at Cape Canaveral,

### **BADGER INJECTION SOLUTIONS, LLC**

is now servicing the Northeast with kinetically adjustable pore space dilation injection techniques to emplace your selected in-situ treatment amendment.

It's all about **CONTACT**, and the Badger Technology **DELIVERS**.

- DAILY injection volumes average 2,500 GALLONS with injection rates of up to 35 GALLONS PER MINUTE
- TARGET SPECIFIC TREATMENT AREAS using a selection of nozzle arrays (360°, 270° or 180°) with a MINIMUM RADIUS OF 15-FEET
- VARIABLE INJECTION FLOW RATES - essential in allowing amendments to diffuse into limited pore spaces



Environmental Assessment & Remediations is the certified BADGER technology provider for the Northeast.

Contact us **NOW** to coordinate your **INJECTION SERVICES** for 2016!

(631) 447-6400 ext 153

allen@enviro-asmnt.com

[badgerinjectionsolutions.com](http://badgerinjectionsolutions.com)

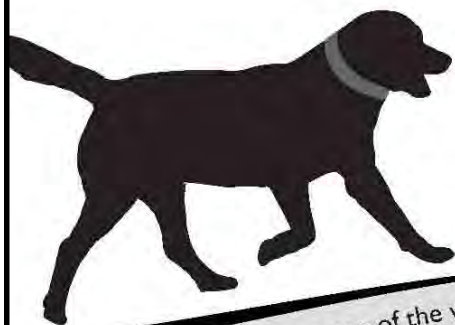


ENVIRONMENTAL  
ASSESSMENT &  
REMIEDIATIONS



# Eastern Analytical, Inc.

Professional laboratory & drilling services



GROUNDWATER  
SOIL & SLUDGE  
WASTEWATER  
STORMWATER  
DRINKING WATER  
SURFACE WATER

we're with you every step of the way | [www.eailabs.com](http://www.eailabs.com) | 800.287.0525

## MCLANE ENVIRONMENTAL, LLC

### Range of Services

Ground Water Modeling  
Contaminant Fate and Transport  
Aquifer Characterization  
Remediation Design and Optimization  
Exposure and Risk Assessment  
Water Resources and Supply  
Natural Resource Damages  
Coastal Zone Modeling  
Wastewater Disposal Analyses  
GIS and Data Visualization  
Litigation Support



Providing ground water consulting services to clients nationwide, including:

- industrial corporations,
- law firms,
- municipalities,
- DOD, DOE, and others.

Specializing in ground water modeling, chemical fate and transport, well field optimization, and litigation support services.

Visit our web site at  
[www.McLaneEnv.com](http://www.McLaneEnv.com)

E-mail: [info@McLaneEnv.com](mailto:info@McLaneEnv.com)

707 Alexander Road, Suite 206  
Princeton, NJ 08540  
Ph. 609.987.1400 Fax 609.987.8488

# StoneHill Environmental, Inc.

Providing Environmental Consulting Services  
Throughout New England Since 1989

- ▶ Phase I & II Due Diligence Assessments
- ▶ Water Resource Impact Studies & Development
- ▶ Rock Blasting Groundwater Impact Studies
- ▶ Expert Witness and Litigation Support
- ▶ Contaminated Site Investigation and Remediation

*Contact: Timothy Stone CPG*

*Licensed Geologist NH, ME, DE, PA / Massachusetts LSP*

600 State Street, Suite 2, Portsmouth, New Hampshire 03801  
(603) 433-1935 □ (800) 639-4503 □ FAX: (603) 433-1942

NH-WBE/MBE, MA-SOMWBA, WBE Teaming



40-Hour OSHA Trained  
MSHA Trained  
**PERSONNEL**  
Company Licensed in PA, OH, NY,  
WV, & VA

Specialist in Environmental, Geotechnical & Core Drilling  
No Job Too Large or Too Small



Split Inner Core Barrels  
Hydropunch II (Modified) Hydraulic  
Soil Probing

#### **SAMPLING METHODS**

Split Spoon Sampling  
Continuous Soil Sampling  
Single & Dual Packer Testing

Soil Borings  
Monitoring Wells  
Well Development  
**CONSTRUCTION**  
Seal & Abandonment  
Pressure Grouting  
Piezometer Installation



Wireline Rock Coring System – “B” through 6”

Hollow Stem Augering  
Dual Wall Reverse Air  
Air & Mud Rotary  
**DRILLING CAPABILITIES**  
Air Hammer  
Angle Drilling  
Indoor Drilling  
ATV/Track/Skid/Barge

Pennsylvania Office  
1857 Woodland Ave. Ext.  
Punxsutawney, PA 15767  
Voice – 800-337-4553  
Fax – 814-938-8833  
[phale@hetager.com](mailto:phale@hetager.com)

Ohio Office  
4151 Executive Parkway, Suite 350  
Westerville, OH 43081  
Voice – 800-337-4553  
Fax – 814-938-8833  
[phale@hetager.com](mailto:phale@hetager.com)

# A Look at Columnar Basalts: The Giants Causeway

By Brandon Tufano

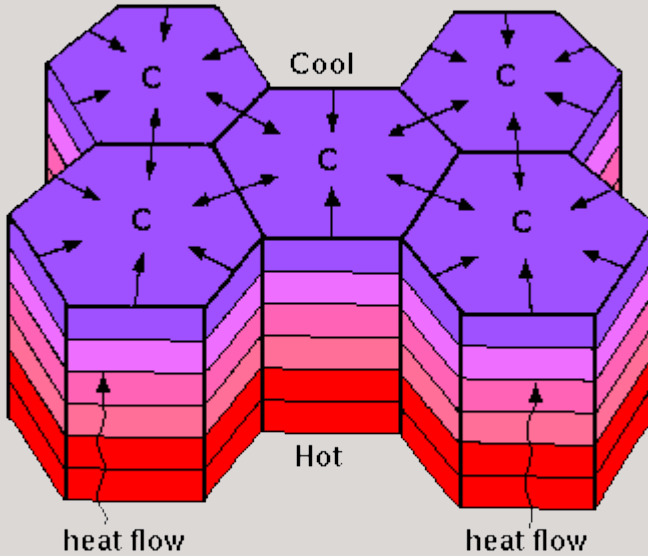
We have all seen columnar jointing at one point or another. Whether it was in a textbook a decade ago or, for the fortunate, as you stood before a massive basalt and marveled at the hexagons arrayed before you, a seemingly impossible feat of nature yet completely tangible as you reach out and touch the weathered rock surface. Columnar joints, typically basalts, have captured the hearts of geologists along with everyone else, starting with the very moment eyes were laid upon them. What are these magnificent structures? Where do they come from?



*Basalt Columns  
Staff Image Credit James Westland, 2016*

*(Columnar Basalts continued on page 23)*

In the simplest terms, columnar basalts are a structure that forms in rocks, typically basalt, that consists of columns separated by joints that formed when the rock contracted during cooling.



A diagram explaining how columnar jointing forms in a cooling body of rock. Diagram from Dr. Malcolm Reeves's website at the University of Saskatchewan (<http://homepage.usask.ca/~mjr347/prog/geoe118/geoe118.054.html>).

For many years, the reason for the uniquely hexagonal shape remained a mystery; however, it seems this mystery has been solved. The reason for the hexagonal columns is multifold. The first factor needed is a lava of significant thickness to have a center that cools *in situ*. The fact that the lava is allowed to

# DEFINING INNOVATION WITH SUSTAINABLE SOLUTIONS

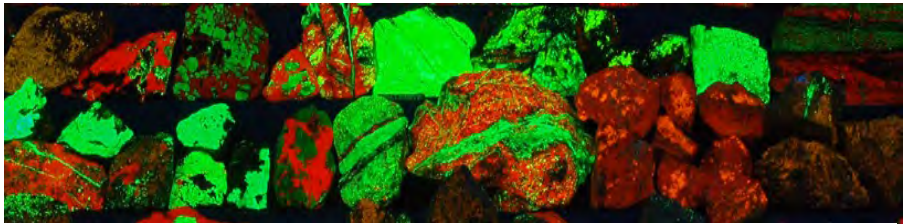


Site Investigation and Remediation  
Geotechnical/Earth Sciences  
Sustainability  
Brownfields Characterization and Redevelopment  
Dams and Hydraulics  
Environmental Infrastructure  
Architecture  
Civil  
Transportation  
Water/Wastewater  
Structural  
GIS/Information Technology  
Construction Management/Design-Build



[www.gannettfleming.com](http://www.gannettfleming.com)

James M. Barish, CPG, LSRP ■ Phone: (609) 584-9592 ■ Cell: (609) 385-5822  
jbarish@gfnet.com ■ More than 55 offices worldwide  
Suite 203, 3575 Quakerbridge Road, Hamilton, NJ 08619



## RICHTER GEOLOGY PLLC

**Dorothy Richter, P.G.**

(NH, NY, PA, NC, KY, IL, MN)

President

603 231-7845

[dorothy.richter@outlook.com](mailto:dorothy.richter@outlook.com)

[richtergeology.com](http://richtergeology.com)

*(Columnar Basalts continued from page 23)*

cool at a reasonable slow rate (as opposed to something like a 'a or pahoehoe, or pillow basalts) means that cracks can begin to form as the edges cool faster than the center of the flow. Initially, cracks form at 90 degree angles as the basalt cools. As these cracks grow larger, the angle is forced to change from 90 degrees to 120 degrees. From there, pattern formation by crack propagation begins to take over, much like seeding super pure water to form ice (or tempering chocolate). The vast majority of the angles formed as this propagation continues trend towards 120 degrees and a columnar basalt formation is born.

There are numerous examples of this from around the world but perhaps the most famous is The Giants Causeway in Northern

*(Columnar Basalts continued on page 31)*

## **What are the AIPG Goals?**

### **AIPG Purposes**

The purposes of the Institute shall include:

- Advancing the geological sciences and the profession of geology;
- Establishing qualifications for professional geologists;
- Certifying the qualifications of specific individual member geologists to the public;
- Promoting high standards of ethical conduct among its members and adjuncts and within the profession of geology; and
- Representing and advocating for, the geological profession before the government and the general public.



*AARCO Environmental Services Corp.*

Premier Drilling Company



**AARCO Environmental Services Corp. is a premier full service environmental contracting company. Our expertise includes a wide variety of drilling services:**

*Environmental Drilling, Geotechnical Drilling  
Hollow Stem Auger, SONIC Drilling, Air  
Rotary Drilling, Mud Rotary Drilling, Well  
Installation, Well Decommissioning, Chemical  
Injection, Direct Push, Remote Access,  
Truck and Track mounted rigs.*

**NY & NJ Licensed**



**AARCO Environmental Services Corp.**

50 Gear Avenue, Lindenhurst, NY 11757

Ph: (631) 586-5900 Fx: (631) 586-5910

[www.aarcoenvironmental.com](http://www.aarcoenvironmental.com)

# HAGER-RICHTER

***Geophysics for the Engineering Community***

***National Reputation | Nationwide Practice  
Take a Closer Look. You'll Like What You See.***

***[www.hager-richter.com](http://www.hager-richter.com)***

**Main Office**

8 Industrial Way—D10  
Salem, New Hampshire 03079  
T: 603-893-9944

**NY / NJ Office**

846 Main Street  
Fords, New Jersey 08863  
T: 732-661-0555

*dba HR Geological Services in New York*



Have an idea for a Newsletter article?

We are always more than willing to  
incorporate our member's  
**ideas and experiences**  
into the quarterly Newsletter!

Submit your ideas to Brandon Tufano at:  
[btufano@rouxinc.com](mailto:btufano@rouxinc.com)



**Providing Critical Environmental Data on Properties Throughout the U.S.**

Envirosite's cost-effective government records database and historical property research solutions are used industry-wide for:

- Environmental Site Assessments (ESAs)
- Environmental Risk Management
- Phase 1 & 2 Reporting
- RSRA Desktop Reviews
- Due Diligence



*Our solutions provide near real-time data delivery. Receive the environmental information you need – when you need it.*

*Contact us at **866-211-2028** and reference our NEAIPG newsletter ad for a **FREE TRIAL REPORT**.*



## Maine Test Borings

18 Mack Lane  
Hermon, ME 04401

**Jon Rudnicki**

Ph: (207) 848-7041

Ph: (800) 698-9142

Cell: (207) 659-1749

Fx: (207) 848-7042

[www.mainetest.com](http://www.mainetest.com)

[jon@mainetest.com](mailto:jon@mainetest.com)



**QUANTITATIVE  
HYDROGEOLOGY  
INC.**

- Aquifer Characterization & Conceptualization • Modeling •
- Aquifer Tests → Design, Implementation, & Analyses •
- Flow & Transport Analyses/Evaluations • Environmental Litigation •

**Michael A. De Cillis, CPG-6986,**

*providing Hydrogeologic & Environmental-Consulting Services, and Technical & Logistical Support within the Ground-Water Profession since 1976.*

42 Marc Ct. Bay Shore, NY 11706-7351 ~ (631) 859-3507 ~ E-mail: [madcillis@optonline.net](mailto:madcillis@optonline.net)

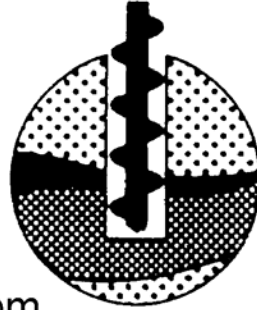
# NEW ENGLAND BORING CONTRACTORS OF CT., INC.

129 KREIGER LANE, GLASTONBURY, CT 06033

*THE RIGHT EXPERIENCE, THE RIGHT EQUIPMENT, THE RIGHT COMPANY*

## Serving New England, NY & NJ

- Test Borings
- Monitor Wells
- Construction Drilling
- Multi-Rig Capabilities



[www.newenglandboring.com](http://www.newenglandboring.com)

(800) 410-5550 • (860) 633-4649 • FAX: (860) 657-8046

# Tectonic

PRactical SOLUTIONS. EXCEPTIONAL SERVICE.

- NJ Licensed Site Remediation Professional (LSRP) Services
- Phase I/Phase II Environmental Site Assessments
- Industrial Site Recovery Act Services
- Tank Closures & Spill Investigations
- Vapor Intrusion Studies & Mitigation
- Remedial Design of Contaminated Soil/Groundwater
- Terrestrial Ecological Evaluations
- Mold, Asbestos & Lead Management
- Subsurface Investigations & Geotechnical Engineering
- Geotechnical Instrumentation & Monitoring
- Vibration & Noise Monitoring
- Retaining Wall & Excavation Support Systems Design

[www.tectonicengineering.com](http://www.tectonicengineering.com)

800.829.6531

NY. NJ. CT. PA.

**Looking for Material for  
the Northeast Section  
Newsletter—We want  
you!**



**From the Editor**

There is plenty of room for growth in the Newsletter, and the digital/internet versions offer many opportunities to add value to your organization. So, if you are interested, email Editor Brandon Tufano at [btufano@rouxinc.com](mailto:btufano@rouxinc.com) or Dick Young at [ryoungnj@aol.com](mailto:ryoungnj@aol.com).



**Resource Development  
and Maintenance**



**Water Treatment**

Layne Christensen's well-trained field crews and experienced staff work with clients to:

- Develop new water sources
- Rehabilitate existing wells, through either chemical or mechanical processes
- Provide pump service (new sales, repairs and installation)

Layne Christensen's professional engineers can assist in determining an appropriate treatment technology. We then fabricate systems scaled to each client's requirements.

**Experienced • Equipped • Committed**

*... Since 1882*

New England • (978) 937-2242

New York • (518) 295-8288

Long Island • (631) 218-0749

*(Columnar Basalts continued from page 25)*

If ever you find yourself in Belfast, the capitol of Northern Ireland, take an afternoon to exit the city by route A2 to the north. Route A2 has another name “Coast Road” and it is one of the top 5 drives in the world. As you wind through the uniquely divided fields of Northern Ireland, you quickly find yourself on the coast of the Atlantic Ocean where the juxtaposition of rock to the left and ocean to the right is straight out of a fairy tale.



*Waist High Stone Walls Neatly Divide the Sheep Fields of Northern Ireland*

While sometimes the journey to a destination is the adventure itself, in this case, there is something even more spectacular along the Coast Road. Shortly after winding through the Glens of Antrim you will begin to see signs for The Giants Causeway.

*(Columnar Basalts continued on page 32)*

*(Columnar Basalts continued from page 31)*



*Dolostone Cliffs in the Glens of Antrim*

The Giants Causeway comes straight out of Gaelic mythology. As the story goes, the columnar basalts are the remains of a causeway built by a giant (as the name suggests). Irish giant Fionn mac Cumhaill (Finn MacCool) was challenged to a fight by the Scottish giant Benandonner. Fionn accepted the

*(Columnar Basalts continued on page 33.)*

*(Columnar Basalts continued from page 32.)*

challenge and built the causeway across the North Channel so that the two giants could meet.

As I postulated before, columnar basalts have fascinated us since we first saw them; in this tale, people thought them so mighty and spectacular that the only explanation for their existence was that a Giant build them!

Now, as you pull up you are met by troves of people and a parking lot with a rather simple but attractive building perched on the cliff that leads down to the Giants Causeway. The building itself suggests what lays beyond...



*The Giant's Causeway Museum and Visitors Center*

Once you are through the visitors center, you wind down the paved road and the smell of salt air grows ever stronger. Along the road you see weathered basalts and laterite, indicating a hiatus between emplacement.

*(Columnar Basalts continued on page 36.)*

# BRINKERHOFF



ENVIRONMENTAL SERVICES, INC.

Geologists • Hydrogeologists • Environmental Scientists

**Environmental Consulting • Environmental Permitting  
Site Investigation • Soil and Groundwater Remediation**

1805 Atlantic Ave. • Manasquan, NJ 08736  
Tel: 732-223-2225 • Fax: 732-223-3666 • [www.brinkenv.com](http://www.brinkenv.com)

***Check out our Advertiser hotlinks wherever there is a website or email listed in an advertisement!***



**ALLEGHENY**  
INSTRUMENTS

GeoVISION™ BOREHOLE  
VIDEO CAMERA SYSTEMS

**Hand Reel to 1000 Feet, Electric Winch to 2000 Feet  
Joystick-Controlled Pan Tilt or Dual View Cameras**



**Bore Diameters From 1-Inch To Mine Shafts**

[sales@alleghenyinstruments.com](mailto:sales@alleghenyinstruments.com)  
[www.alleghenyinstruments.com](http://www.alleghenyinstruments.com)

800-255-1353  
802-626-5302



[www.gmre.co/education.php](http://www.gmre.co/education.php)

## Online Continuing Education Courses for Geologists and Engineers



**Satisfy Your Continuing Education Requirements Easily and Inexpensively**

**Course #1001**

*Pyrite at Skytop: I-99 History and Geologic Setting*

**Course #1002**

*Pyrite at Skytop: Local Geology*

***Earn 4.0 PDH credits for each course***

**[www.gmre.co/education.php](http://www.gmre.co/education.php)**

Arnold G. Doden, Ph.D., P.G.  
Geologic Mapping and Resource Evaluation, Inc.  
925 W. College Ave., State College, PA 16801

Phone: 814.571.7716  
Email: [Arnold@gmre.co](mailto:Arnold@gmre.co)  
[www.gmre.co/education.php](http://www.gmre.co/education.php)

*(Columnar Basalts continued from page 33)*

Around the first corner, you get a real taste of what is to come—a large black inlet of spheroidally, weathered basalt, entablature basalt, and pseudo-columnar basalts.



*Basaltic Inlet*



*Proto-columnar Basalts*

*(Columnar Basalts continued on page 37.)*

*(Columnar Basalts continued from page 36)*

Once you round the final corner, you come face-to-face with one of the most recognizable outcrops in all of geology.



*The Columnar Basalts of The Giants Causeway*

*(Columnar Basalts continued on page 38)*

*(Columnar Basalts continued from page 37)*

No matter what direction you look, there are nearly perfect hexagonal columns all around you. In the picture below, you can see the columns and the internal tabulation that has occurred due to cooling.



*(Columnar Basalts continued on page 39.)*

*(Columnar Basalts continued from page 38.*

Enter at your own risk but the closer you get to the water, the more spectacular the views as the Atlantic relentlessly beats against the stoic façade of the basalts.



*(Columnar Basalts continued on page 44.*

SOIL  
BORING

(203) 758-5817 Phone  
(203) 758-0822 Fax

ROCK  
CORING

Portable  
Skid/Propane  
Track  
Truck Rigs



Monitor Well  
Specialists  
OSHA  
Certified

**General  
Borings,  
Inc.**  
SUB-SURFACE INVESTIGATIONS

P.O. Box 7135  
Prospect, CT 06712

OBSERVATION  
WELLS

CONCRETE  
CORING

# CRAFTSMANSHIP You Can Trust

*Put our 65+ years of Experience to the test*

## Services Offered

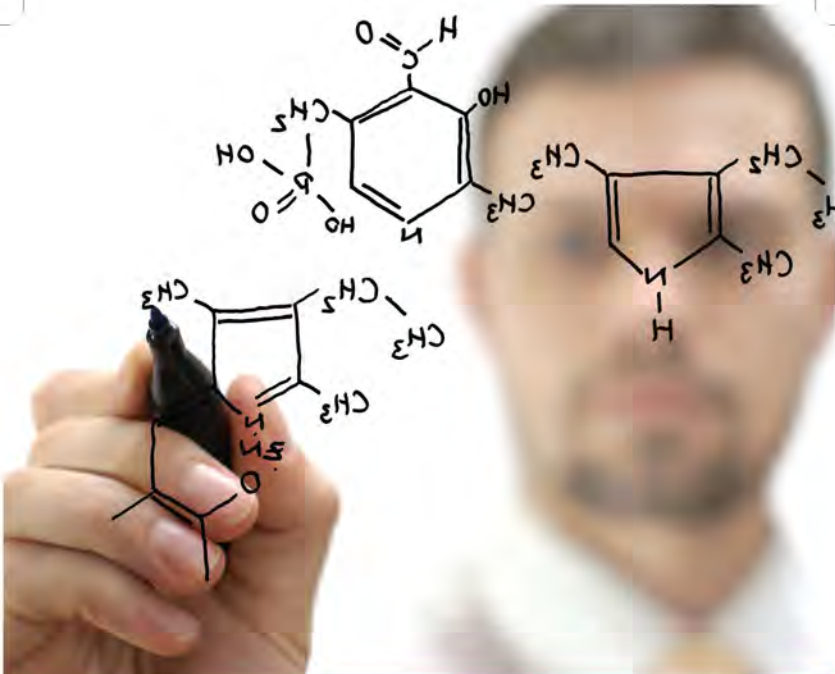
- Environmental
- Construction
- Alternative Energy
- Maintenance



Visit us online @  
[www.islandpumpandtank.com](http://www.islandpumpandtank.com)

ISLAND  
Pump & Tank

# 1-800-458-PUMP



## Solutions to complex challenges

A continually shifting world makes any engineering design solution difficult, often overwhelming. We help you overcome these challenges.

First, we start with you – defining true value and a successful outcome. With a deep understanding of the nexus between regulatory, technological and environmental drivers, we deliver certainty on cost-effective projects and programs that meet and exceed your goals.

**Together we can do a world of good.**

[www.arcadis-us.com](http://www.arcadis-us.com)

Two Huntington  
Quadrangle Suite 1510  
Melville, NY 11747  
631 249 7600

Imagine the result

 **ARCADIS**  
Infrastructure · Water · Environment · Buildings

## **PIGGYBACKING: SERVICE EXPANDED FOR NE/AIPG ADVERTISERS!**

The NE/AIPG Newsletter has again expanded its Piggybacking options offered to Advertisers. Advertisers can include promotional flyers or brochures along with NE/AIPG's normal distribution of the Newsletter.

Piggybacking gives NE/AIPG Advertisers a cost-effective way to get their promotional material into the hands of NE/AIPG's targeted audience of decision-makers. That audience has grown to over 800, including ~700 NE/AIPG Members and Applicants throughout New York, New Jersey, and the six New England states, as well as ~40± AIPG National and Section Officers, plus over 70 Advertisers, and others. NE/AIPG Members benefit from keeping current on available and innovative products and services.

**Piggyback Rates for digital issues** (see <http://issuu.com/neaipg/docs>):

1. A "Full Page" (~8" high by 5" wide) Space in Full Color costs \$125 per issue.
2. A "Double Full Page" (~8" high by 10" wide) Space in Full Color costs \$225 per issue.
3. A "Quad Full Page" (2 Doubles of ~8" high by 10" wide each) Space in Full Color costs \$425 per issue.

To schedule your Piggyback promotion, or to learn more, just call Dick Young at 973-335-2289 or e-mail [RYoungNJ@aol.com](mailto:RYoungNJ@aol.com).

**HALEY &  
ALDRICH**

**Building communities.  
Improving our infrastructure.**

*Creating new possibilities with clients.*

- Property development and brownfields reuse
- Remedial investigations, design and construction
- Environmental, health and safety management
- Energy facility and linear utilities development
- Underground construction risk management
- Sustainable design enhancement

25 Offices Nationwide • T. 617.886.7400 • [HaleyAldrich.com](http://HaleyAldrich.com)



***Specializing Exclusively in  
Land, Marine, and Borehole Geophysics***

**TECHNIQUES**

Ground Penetrating Radar  
Seismic Refraction/Reflection  
Magnetics  
Microgravity  
Electromagnetics  
Resistivity  
Electrical Imaging  
Spontaneous Potential  
Multibeam Sonar

Metal Detection  
Side Scan Sonar  
Hydrography  
Goelectric Leak Detection  
Induced Polarization  
Sub-Bottom Profiling  
X-Ray Fluorescence  
Acoustic Leak Detection  
Borehole Logging and Imaging

**APPLICATIONS**

Rock Depth/Rippability Mapping  
UST / Drum Detection  
Utility Detection / Tracing  
Well/Water Supply Siting  
Fracture Detection  
Sinkhole Mapping  
Ordnance Detection  
Rebar and Cable Mapping  
Grave Detection  
Contaminant Plume Mapping  
Landfill Liner Leak Mapping  
Boring Location Clearance  
Subgrade Washout / Void Mapping  
Seafloor Mapping

Shipwreck Location  
Seismic Hazard Studies  
Hydrocarbon Detection  
Seismic Site Classification  
Bathymetric Surveys  
Well Characterization  
Well Construction Confirmation  
Bridge Pier Scour Detection  
Archeogeophysical Surveys  
Septic System Delineation  
Blast and Vibration Monitoring  
Detection of Foundation Elements  
Water Table Mapping  
Buried Landfill Detection

**7 REASONS TO USE ENVIROSCAN**

Geophysics is our only product - so we really know what we're doing.  
We own all the gear for all techniques - so we use the right tools every time.  
Since we do only geophysics, we are not your competitor!  
We have 4 licensed PGs on-staff managing or reviewing every project.  
We provide fully electronic / digital / GPS-based mapping and reporting.  
We provide one-stop shopping for land, marine, and borehole geophysics.  
We are WBE - certified.



**717-396-8922**

1051 Columbia Avenue • Lancaster, PA 17603

**www.enviroscan.com**



For most of us, a brisk hike is probably an occupational requirement and, in this case, while most tourists stay on or very near the columns of the causeway, for the observant geologist there are always more things to explore. A half mile up the cliff face from The Giant's Causeway lies the Giants Organ (as in the musical instrument, and with good reason).



These 50+ foot tall columns with their own internal fracture network are, in my opinion, more spectacular than the causeway below. Where the causeway pillars are a foot in diameter on average, these “skyscrapers” are closer to two-three feet in diameter and you can’t truly appreciate their magnitude until you stand beneath them and look up.





**EMPIRE GEO**  
**SERVICES, INC.**  
A SUBSIDIARY OF SJB SERVICES, INC.

*"Quality and Service - the way it used to be."*

- Subsurface Exploration
- Geotechnical Engineering
- Geotechnical Laboratory Testing
- Special Inspections
- Construction Materials Testing
- Environmental Services
- SWPPP Monitoring
- Storm Water Infiltration Testing
- Asbestos Abatement Monitoring



1.800.821.5911 • info@sjbegs.com • www.sjbegs.com

Offices in: Albany, Buffalo, Cortland, Jamestown and Rochester, NY

**C S G**

ENVIRONMENTAL CONSULTANTS

- ✓ **property transfer site assessments**
- ✓ **groundwater development, management, protection, permitting**
- ✓ **UST closures and investigations**
- ✓ **litigation support**

Carol S. Graff, CPG-06429  
109 Renfrew Avenue  
Trenton, NJ 08618-3335

Phone: 609-393-4442  
FAX: 609-393-5999  
E-mail: cgraiff5297@aol.com



*"Realize Your Vision"*



- Assessment & Remediation Services
- Vapor Intrusion Evaluations
- Brine Disposal Wells
- Reservoir Evaluation and Gas Storage Facilities
- GIS Services

**Contact us today to learn how we can help with your next project!**

Environmental • Civil Engineering • Structure Design  
Landscape Architecture • Land Planning • Municipal • Energy • Survey

(845) 454-2544 | [www.PVE-llc.com](http://www.PVE-llc.com) | [info@PVE-llc.com](mailto:info@PVE-llc.com)



### Geo-Environmental Site Investigation Services

- Cone Penetrometer Testing • Piezo, Resistivity and Seismic Cones
- Ultra Violet Induced Fluorescence (UVIF) CPT, Natural Gamma (GCPT)
- Limited Access Drilling and Cone Penetration Testing
- Specialists in Overwater CPT Work
- Direct Push Geo-Environmental Soil Sampling
- Continuous Surface Wave Seismic Testing
- Groundwater and Vapor Sampling
- SPT Energy Calibration
- Customized Electronic Instrumentation
- Electric Piezometer Sales and Installation

**Conetec serving the U.S. And Canada with offices in:**

West 1-800-567-7969 • East 1-800-504-1116

[www.conetec.com](http://www.conetec.com) • [insitu@conetec.com](mailto:insitu@conetec.com)

Vancouver, BC • Edmonton, AB • Salt Lake City, UT • West Berlin, NJ • Charles City, VA

# Upcoming Events and Classes



## ITRC's 2019 Online Training Events

(Course dates subject to change)

*Advancing Environmental Solutions*

### ITRC ONLINE TRAINING EVENTS

Registration: <http://www.cdu-in.org/live/>

Cost: Sponsored by ITRC and EPA at no cost for the participant.

Associated Guidance: <http://www.itrcweb.org/Guidance>

More Information: <http://www.itrcweb.org/training>

If you have questions after completing the online registration, call us at (402) 201-2419 or send an e-mail to [training@itrcweb.org](mailto:training@itrcweb.org). **NOTE: Course dates and times are subject to change.**

2019 Date / Time (EASTERN)	ITRC Training Topic
May 14 (Tuesday) 1pm - 3:15pm EASTERN	Bioavailability of Contaminants in Soil: Considerations for Human Health Risk Assessment
May 16 (Thursday) 1pm - 3:15pm EASTERN	Connecting the Science to Managing LNAPL Sites Part 3: Using LNAPL Science, the LCSM, and LNAPL Goals to Select an LNAPL Remedial Technology
June 19 (Wednesday) 1pm - 3:15pm EASTERN	TPH Risk Evaluation at Petroleum-Contaminated Sites
August 15 (Thursday) 1pm - 3:15pm EASTERN	Remediation Management of Complex Sites
August 27 (Tuesday) 1pm - 3:15pm EASTERN	Long-term Contaminant Management Using Institutional Controls
August 29 (Thursday) 1pm - 3:15pm EASTERN	Characterization and Remediation in Fractured Rock
September 10 (Tuesday) 1pm - 2:00pm EASTERN	ITRC Panel Event: Stormwater Best Management Practices Performance Evaluation
September 12 (Thursday) 1pm - 3:15pm EASTERN	TPH Risk Evaluation at Petroleum-Contaminated Sites
September 17 (Tuesday) 1pm - 3:15pm EASTERN	Issues and Options in Human Health Risk Assessment – A Resource When Alternatives to Default Parameters and Scenarios are Proposed
September 19 (Thursday) 1pm - 3:15pm EASTERN	Groundwater Statistics for Environmental Project Managers
October 8 (Tuesday) 1pm - 3:15pm EASTERN	Connecting the Science to Managing LNAPL Sites Part 1: Understanding LNAPL Behavior in the Subsurface
October 10 (Thursday) 1pm - 3:15pm EASTERN	Bioavailability of Contaminants in Soil: Considerations for Human Health Risk Assessment
October 15 (Tuesday) 1pm - 3:15pm EASTERN	Connecting the Science to Managing LNAPL Sites Part 2: LNAPL Conceptual Site Models and the LNAPL Decision Process
October 22 (Tuesday) 1pm - 3:15pm EASTERN	Connecting the Science to Managing LNAPL Sites Part 3: Using LNAPL Science, the LCSM, and LNAPL Goals to Select an LNAPL Remedial Technology
October 24 (Thursday) 1pm - 3:15pm EASTERN	Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management
November 5 (Tuesday) 1pm - 3:15pm EASTERN	Geospatial Analysis for Optimization at Environmental Sites
November 14 (Thursday) 1pm - 3:15pm EASTERN	Remediation Management of Complex Sites
November 19 (Tuesday) 1pm - 3:15pm EASTERN	Characterization and Remediation in Fractured Rock
November 21 (Thursday) 1pm - 3:15pm EASTERN	Long-term Contaminant Management Using Institutional Controls
December 3 (Tuesday) 1pm - 3:15pm EASTERN	TPH Risk Evaluation at Petroleum-Contaminated Sites
December 5 (Thursday) 1pm - 2:00pm EASTERN	ITRC Panel Event: Stormwater Best Management Practices Performance Evaluation

Course registration opens at [www.itrcweb.org](http://www.itrcweb.org) four to six weeks prior to the course offering

*(Upcoming Events continued on page 49)*

*(Upcoming Events continued from page 48)*



**Course Type:**  
GOLI Online Course

**Organization:**  
American  
Geosciences Institute  
CEUs: 0.10

## **WELL RE-DEVELOPMENT IN NEW ENGLAND**

This course is designed to provide water utility personnel, engineers, hydro-geologists, regulatory officials, and other interested persons an understanding about the sand and gravel and bedrock aquifers in New England, how and why well performance declines over time, and information about available options for rehabilitating these wells.

The course begins with an introduction to the glacial and bedrock geology of New England, including the formation of these geological features, information on why a groundwater well in this geological terrane needs to be re-developed, and tools for assessing when a well needs to be re-developed. The course also provides information on different well types, water well terminology, groundwater flow into well screens, and a discussion of specific capacity as it applies to sand and gravel and bedrock aquifers. Specific capacity is easy to calculate and use as a measure of the performance of your well, but something that is often overlooked. Moving forward, there is a segment on declining well performance and the chemical, physical, and microbiological factors that are the cause for drop in performance in wells. This section is followed by a segment on the variety of techniques, both physical and chemical, that can be used to rehabilitate wells and improve specific capacity. The course finishes with a section on understanding the costs and permitting considerations involved in well rehabilitation.

## **ADDITIONAL COURSES HERE!**

*(End)*

*(Columnar Basalts continued from page 45)*

Continuing along this path for another half mile or so can be quite rewarding as you are afforded some of the best views of the causeway as you look down on the hexagonal array.



Thus, if you ever find yourself in County Antrim, Northern Ireland, take the Coast Road, wind through the Glens... and walk where Giants walked.

*(End)*

# The Rocks of Vermont

Reproduced from the Vermont Geological Survey

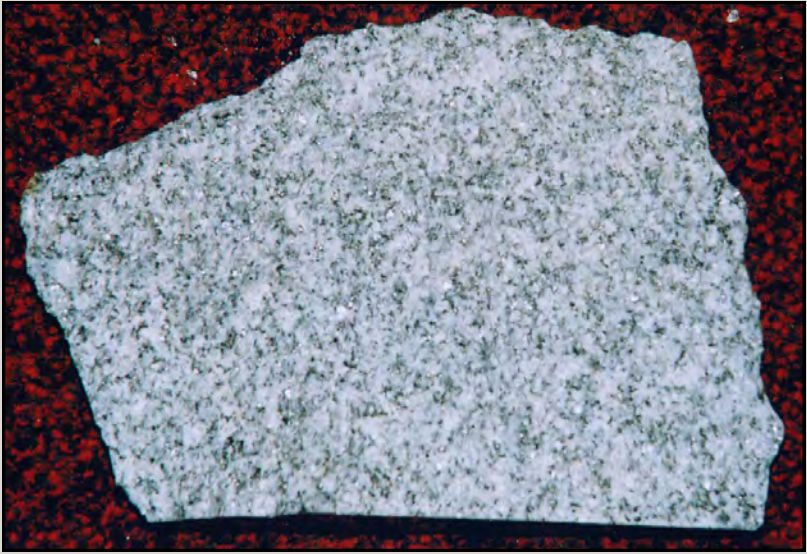
When most people, especially geologists, think of the rocks of Vermont, the first type that comes to mind is granite, and with good reason. The granites of Vermont are famous countrywide for their splendor. Granite is a set of medium to coarse grained, light-colored, intrusive igneous rock. Typically, granite is composed of feldspar, quartz, and mica. There are several feldspars: the pink mineral is potassium feldspar, orthoclase and/or microcline while the white is typically albite or oligoclase. Quartz is grey or glassy in appearance. Small amounts of black biotite and/or white muscovite are present as the platy mica minerals. Hornblende, and occasionally pyroxene, may make up the mafic fraction. Lastly, the accessory minerals (less than 2% of the mineral content) including uranium bearing zircons, is normally present in granite and is used by the geochronologist in Uranium/ Lead analysis to determine the age of the rock.

The name "granite" is derived from the fact that the rock appears to be composed of numerous "grains" or crystals that are intergrown to form a solid, durable rock. These grains occurred when the magma cooled slowly underground and liquid partitioning was allowed to occur, thus providing pockets of like density elements and then minerals to coalesce.

Granite is a commercially valuable rock in Vermont. The granite industry, centered in Barre, has been in operation since the 1800's. Commercial uses of granite include monument stone, building stone, street curbing, and crushed rock aggregate.

Granite, one of the state rocks of Vermont, is abundant in the northeastern section of Vermont.

*(The Rocks of Vermont continued on page 52)*



*Granite Photo Credit—Vermont Geological Survey  
No copyright infringement intended*

This sample above was collected from the Rock of Ages quarry in Barre (see the Winter 2019 ISSUE for the article on the Rock of Ages Quarry). The granite is Devonian in age—around 380 million years old.

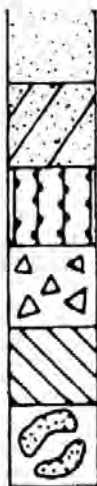
This next rock (on page 60) is a medium gray, fine- to medium- grained, limestone with fossil fragments. This fossiliferous limestone is primarily composed of calcite. Fossil fragments, most less than 3mm across, are visible. The sample of fossiliferous limestone was collected from a highway aggregate quarry on South Hero Island and is approximately 460 million years old from the Glens Falls Formation.

Most limestone develops as a result of the accumulation of the shells or hard skeletal remains of marine organisms. As these accumulations are buried and compacted by younger sedimentary deposits, the voids are gradually filled by finer particles, some solution and recrystallization occurs, and finally the entire mass hardens into a solid rock. Ancient limestones, as represented by this sample, have been buried for millions of years, making the rock very dense and hard.

CARL VERNICK, P.E.  
President

## SOIL MECHANICS DRILLING CORP.

3770 MERRICK ROAD • SEAFORD, L.I., NEW YORK 11783  
(516) 221-2333



Test  
Borings

3770 Merrick Road  
Seaford, New York 11783  
Phone (516) 221 - 7500  
Fax (516) 221 - 0254

# SOIL MECHANICS

Environmental Site Assessments  
Geoprobe Environmental Sampling  
Inspection-Testing-Drilling

Carl Vernick P.E.  
President

# GET TO THE SOURCE... THE FIRST TIME!



**with Horizontal Remediation Wells**

### **Some of the benefits:**

- No business interruption during installation
- Maximum exposure to contaminants
- Cost efficient
- Reduced maintenance equipment, and operations cost.

### **And a few of the applications are:**

- Horizontal Air Sparging
- Horizontal Soil Vapor Extraction
- Horizontal Bio Remediation
- Horizontal Soil Sampling
- Chemical Oxidation
- And many more...

**DIRECTIONAL**  
Technologies, Inc  
*Horizontal Directional Drilling Services*

**203.294.9200**

[www.directionaltech.com](http://www.directionaltech.com) | Email: [ksequino@directionaltech.com](mailto:ksequino@directionaltech.com)

## Support Our Advertisers and Sponsors!

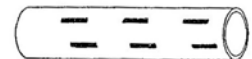
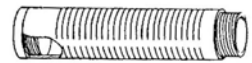
The Executive Committee reminds all our members to support the companies that advertise in this Newsletter and generously sponsor our meetings. Their support represents a major contribution that helps the Northeast Section continue its mission to promote the profession and build the cornerstone of our Section, the *Angelo Tagliacozzo Memorial Geological Scholarship Perpetual Trust Fund*. It is our advertisers and sponsors who make our Newsletter so successful and well-distributed, reaching more than 700 members across eight states.

Please let our advertisers and sponsors know that you appreciate them by working with these companies whenever possible. Be sure to personally acknowledge their support when you speak with their representatives, and mention you saw their ad or sponsorship in our Newsletter.

*Thank you to all our advertisers and sponsors!*



- Well Rehab. Products
- Manholes
- Bentonite
- Filter Sock
- Inline Chemical Mixers
- Sampling Bailers
- Clear PVC Pipe
- Locking Caps



Manufacturers of Slotted & Perforated Pipe  
ranging from 1/2" to 24" in diameter

**302-684-3197**

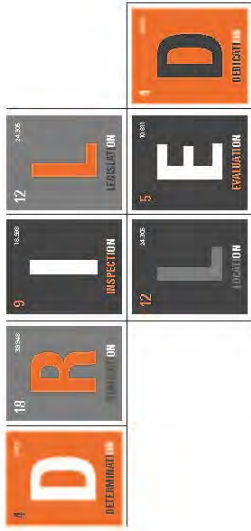
FAX 302-684-0643

142 Broadkill Rd. • Milton, DE 19968

[www.atlantic-screen.com](http://www.atlantic-screen.com)

email: [atlantic@ce.net](mailto:atlantic@ce.net)

© SGS North America Inc. - 2014 - All rights reserved - SGS is a registered trademark of SGS Group Management SA.



## THE TRUSTED LEADER IN ENVIRONMENTAL DRILLING SERVICES

Since 1985, SGS has helped set the standards of excellence in our industry.

SGS is the world's leading inspection, verification, testing and certification company.

### SGS ENVIRONMENTAL DRILLING

**Brian McGuire, General Manager**

t: +1 800 962 7327

us.envdrilling@sgs.com

www.us.sgs.com/drilling

WHEN YOU NEED TO BE SURE



# Fast & Accurate Surface and Borehole Geophysics

## Acoustic & Optical Televiwer Logging

Borehole Video & Geophysical Logging

Multi-Electrode Resistivity Imaging

Seismic Refraction & Reflection

Radar, Magnetics, EM & VLF

Do More than Scratch the Surface...

## G E O P H Y S I C A L A P P L I C A T I O N S

I N C O R P O R A T E D

Holliston, MA • 508-429-2430

Ask about our geophysical instrument rentals



An Environmental Consulting  
& Remediation Firm

## Timely Response. Time-Proven Solutions.

- Guaranteed Fixed-Price Remediation
- Environmental Due Diligence
- Regulatory Compliance
- Litigation Experts and Environmental Forensics
- Indoor Air Quality

Parsippany, NJ  
Hamilton, NJ  
New York, NY

Call the experts at EWMA to assist with  
your environmental questions.  
(800) 969-3159  
[www.ewma.com](http://www.ewma.com)



## Two Companies have Joined Forces!



ENVIRENT  
corporation

**Environmental  
RENTAL**

**FREE  
DELIVERY**  
on rental  
orders in  
North Jersey

- PID'S
- Water meters
- Dust meters
- Bailers and  
much more....

**Now bigger and better  
with expanded capabilities  
for all your equipment needs  
while still providing the same  
great personal service you expect.**

**10% OFF**  
your first rental  
with postcard

**(800) 446-8736 and (800) 219-7368**

[www.environmentalrental.com](http://www.environmentalrental.com)

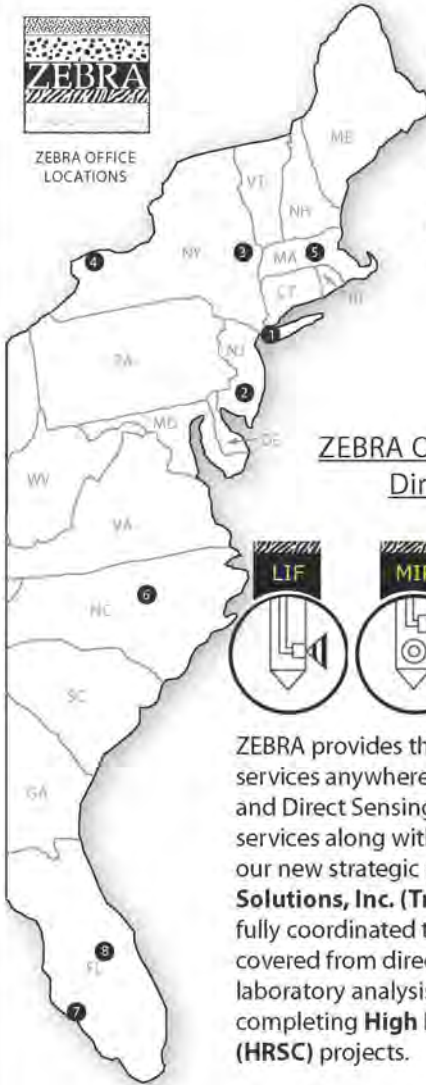
[www.envirent.com](http://www.envirent.com)

# ZEBRA Environmental Corp.

Providing Subsurface Sampling, Injection and Data Collection  
for Environmental Professionals Since 1992



ZEBRA OFFICE  
LOCATIONS



Headquarters:  
NYC, NJ &  
Southern  
CT Area

1 LYNBROOK, NY  
516-596-6300

2 JACKSON, NJ  
732-275-8333

Upstate NY &  
New England

3 ALBANY, NY  
518-355-2201

4 NIAGARA FALLS, NY  
716-297-6567

5 UXBRIDGE, MA  
508-581-9880

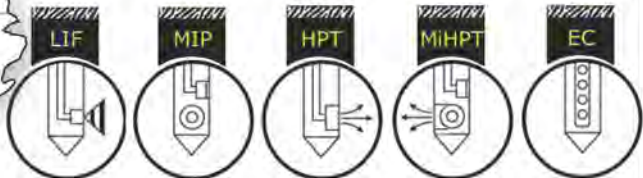
Southeast  
Region

6 CARY, NC  
813-626-1717

7 TAMPA, FL  
813-626-1717

8 Orlando, FL  
813-626-1717

## ZEBRA Offers The Widest Range of Direct Sensing Services:



ZEBRA provides the widest range of Geoprobe/ DPT services anywhere, including a toolbox full of Injection and Direct Sensing systems. ZEBRA is now offering **UVOST** services along with **EC, MIP, MiHPT, CPT, MIP/CPT**. With our new strategic partnership with **TRIAD Environmental Solutions, Inc. (TriadES)** we are able to offer our clients a fully coordinated team of professionals. We have you covered from direct sensing to quantitative on-site laboratory analysis with DPT operators experienced in completing **High Resolution Sites Characterization (HRSC)** projects.

1-800-PROBE-IT

WWW.TEAMZEBRA.COM



HAGER GEOSCIENCE, INC.

# Innovative solutions to Subsurface Problems

Celebrating 26 Years of Geophysical Consulting Services for Engineering, Environmental, and Infrastructure Projects

PH 1-781-935-8111

[hgi@hagergeoscience.com](mailto:hgi@hagergeoscience.com)

Jutta Hager, Ph.D., P.G., President

[jhager@hagergeoscience.com](mailto:jhager@hagergeoscience.com)

**Your Full Color,  
Professional Business Card Ad could be  
right here, selling for you every day!**

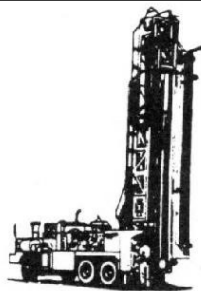
**Just Call Volunteer Advertising Manager Dick Young  
at 973-335-2289 or email [RYoungNJ@aol.com](mailto:RYoungNJ@aol.com)**

## BOYD ARTESIAN WELL CO., INC.

*We design, manufacture and install round holes!*

GEOHERMAL WELLS  
WELL ABANDONMENT  
ROTARY & PERCUSSION DRILLING  
WELLS REPAIRED & DEEPENED  
COMPLETE WATER SYSTEMS  
HYDROGEOLOGICAL CONSULTING  
MONITORING WELLS

SPLIT SPOON SAMPLING  
EXPLORATORY DRILLING  
HYDROFRACTURING  
IRRIGATION WELLS  
SPECIALTY DRILLING  
GRAVEL WELLS  
SITE ASSESSMENTS



CARMEL, NY

(800) 321-2693

[WWW.BOYDARTESIANWELLCO.COM](http://WWW.BOYDARTESIANWELLCO.COM)

*(The Rocks of Vermont continued from page 52)*

Limestones of this type are often quarried and sold as "marble" and when polished make remarkably beautiful building stone. The waste rock can be crushed and used for highway aggregate and other commercial products such as agricultural lime. There are numerous commercial limestone quarries in western Vermont.



*Fossiliferous Limestone*

*Photo Credit World of Stones*

*<http://www.worldofstones.com/blog/fossiliferous-limestone-detailed-description/>  
No copyright infringement intended*

This third rock (on page 61) is gneiss. Gneiss is a metamorphic rock, a group of rocks composed of some of the oldest rocks on Earth. The foliation, or layering, in gneiss has distinguishing characteristics that set it apart from other metamorphic rocks. In a gneiss, layers or lenses of granular minerals alternate with layers of flaky or elongated minerals, typically micas. The layers are a result of a combination of intense heat and pressure. The heat allows the solid rock to behave in a viscoelastic manner and the pressure aligns the minerals

*(The Rocks of Vermont continued on page 61.)*

*(The Rocks of Vermont continued from page 60)*

along stress lines. The granular minerals are usually the light-colored calcium, sodium, and potassium-rich minerals such as quartz and the various types of feldspar. The alternating layers are commonly composed of dark-colored iron and magnesium-rich minerals including biotite, chlorite, and hornblende.

Since the mineralogy of many gneisses (quartz, feldspar, and mica) is similar to that of granite, many gneisses are referred to as granite gneiss. A granite gneiss may be derived from the metamorphism of a granite or may simply be a product of the metamorphism of a sedimentary rock that happens to have a composition similar to granite.

Gneiss is an abundant rock type in the Precambrian age "core" of the Green Mountains and areas of the southern Green Mountains. Areas where Precambrian rock (older than 570 million years before the present) is exposed are known as massifs. This sample below was collected from an area of Precambrian rock located north of Chester. The gneiss exposures in this area are part of the Precambrian-age Mount Holly Complex.

*Photo credit— Vermont Geological Survey. No copyright infringement intended*



*(The Rocks of Vermont continued on page 68)*

# **MC ENVIRONMENTAL, LLC**



## **Innovative Environmental Services & Consulting**

- Hydrogeology
- Water Resources
- Regulation Compliance
- Monitoring Programs
- Instrumentation
- Site Assessments
- Site Assessments
- Remediation
- Property Transactions
- UST, Spill Response
- Expert Testimony

26 Railroad Avenue #182, Babylon, NY 11702-2216  
Phone 631 321 4500 Fax 631 321 0190  
[mike@mc-environmental.net](mailto:mike@mc-environmental.net)



- Brownfields Evaluation, Cleanup Negotiations and Remediation
- ASTM Phase I and II Real Estate Assessments
- Facility Operations Environmental Audits
- Permit Status/Compliance Review
- Single and Multiple Lot Septic System Design and Permitting
- Water Supply Siting, Analysis, and Permitting
- Federal, State, and Local Development Permitting
- Boundary Surveying, ALTA/ACSM Land Title Surveys, Construction Layout, Construction Inspection

163 Revell Drive, Lincoln, VT 05443  
802-453-4384 \* 802-453-5399 (Fax) \* 800-477-4384  
Email: [lagvt@lagvt.com](mailto:lagvt@lagvt.com)



**AECOM**

## Imagine it. Delivered.

As a fully integrated firm, AECOM connects knowledge and experience across our network of experts to help solve our client's most complex challenges. From high-performance buildings and transit systems, to resilient communities and environments, our work is transformative, differentiated and vital.

[aecom.com](http://aecom.com)

Site & Subsurface  
Investigations

Geotechnical &  
Environmental  
Site Investigations



### **SOILTESTING, INC.**

- Test Boring - Core Drilling
- Monitoring Wells
- Micro Piles
- Helical Piers
- Underpinning

*53 Years of Drilling Services*

**140 Oxford Road, Oxford, CT 06478**

1-800-388-4473

(203) 888-4531

fax (203) 888-6247



# EAI, Inc.

**Environmental Management Services**

Turnkey Solutions for Environmental Management



[www.eaienviro.com](http://www.eaienviro.com)



**GRACE**  
Construction Products

**CETCO**

**CARLISLE**



**AQUAFIN**

### Services:

- ➔ Vapor Barrier Installations
- ➔ Waterproofing
- ➔ Sub-slab Depressurization System Installation (SSDS)
- ➔ Venting/Monitoring System Installations
- ➔ Liquid Boot/GeoVent Installations
- ➔ Air Barrier Installations
- ➔ Tank Services
- ➔ Remediation
- ➔ Air Monitoring System Installations
- ➔ Asbestos/Lead Services
- ➔ Sandblasting
- ➔ Specialty Contracting Services

**Call EAI for All of Your  
Environmental Needs**

50 Prescott Street  
Jersey City, NJ 07304

Tel: (201) 395-0010

[inforequest@eaienviro.com](mailto:inforequest@eaienviro.com)



# NAEVA GEOPHYSICS INC.

THE LEADER IN SUBSURFACE DETECTION

*Subsurface Geophysical Surveys*

- Magnetics
- Electromagnetics
- Ground Penetrating Radar
- Seismic Application
- Utility Location
- UXO Detection
- Borehole Logging
- Dowhole Camera
- Self Potential
- Resistivity
- Sewer Inspection Camera

## VIRGINIA

P.O. Box 7325

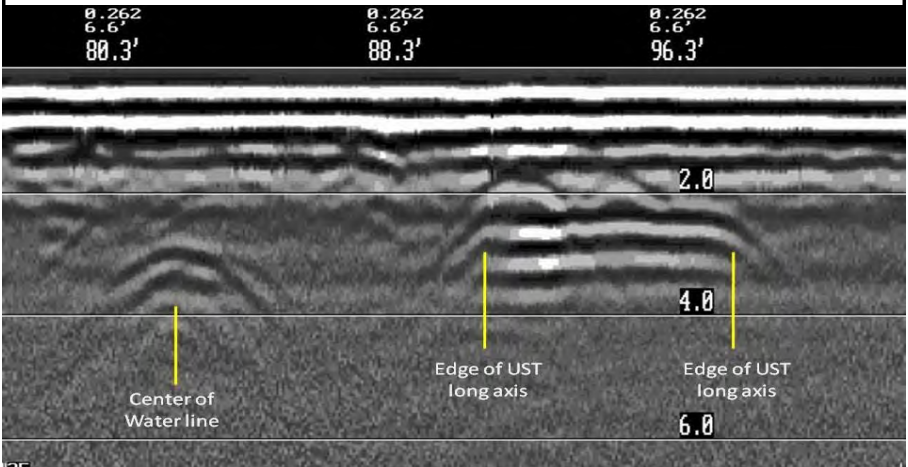
Charlottesville, VA 22906

434-978-3187

434-973-9791 fax

staffva@naevageophysics.com

<http://www.naevageophysics.com>





"We look into the earth"

## PENNSYLVANIA DRILLING

FOUNDATION TESTING	INCORPORATED 1900
MONITORING WELLS	
DAM DRILLING	281 ROUTE 30
ENVIRONMENTAL WORK	IMPERIAL, PA 15126
"PENNDRIILL" DRILLING SUPPLIES	PHONE 724-695-2400
MONITORING WELL SUPPLIES &	FAX 724-695-2455
MANUFACTURING	800-245-4420

[www.pennsylvaniadrillingco.com](http://www.pennsylvaniadrillingco.com)

## LITTLE THINGS YOU CAN DO

What's going on out there? Let your colleagues know what you are working on, your new position, or a new company.

**Simply e-mail a paragraph or more to: [btufano@rouxinc.com](mailto:btufano@rouxinc.com)**

Become active in your section. Attend one of our Spring **or** Fall meetings.

**For details, simply e-mail [geode78@verizon.net](mailto:geode78@verizon.net)**

Join our **Executive Committee**. We always have **openings for creative, committed Geologists who want to make a difference, . . .** and not much is asked of your time.

Think about putting it on your resume!

**For more info, simply e-mail [geode78@verizon.net](mailto:geode78@verizon.net) or [jfrederick@louisberger.com](mailto:jfrederick@louisberger.com)**

- Since 1886 -

## SAMUEL STOTHOFF CO., INC.

Flemington, NJ

WATER AND MONITORING WELL DRILLING  
ROTARY -AUGER-CORE-PROBE RIG  
DOWN HOLE VIDEO INSPECTION SERVICES  
HYDROFRACTURING & WELL REDEVELOPMENT  
7 PUMP SERVICE TRUCKS AND INVENTORY OF 400 PUMPS

Dick Stothoff  
FAX: 908-782-9528

David Lyman  
Phone: 908-782-2116



50 Gear Ave  
Lindenhurst, NY 11757



Phone: (631) 979-2890  
Fax: (631) 979-2891  
Email: [locator@optonline.net](mailto:locator@optonline.net)  
Web: [www.x-raylocating.com](http://www.x-raylocating.com)

**We offer:**

- Line Locating
- Ground Penetrating Radar (GPR)
- Video Pipe Inspection (*DVD supplied*)
- Digital Mapping/Reports
- Fault Locating

Short notice? No problem.  
Call us and we'll work with you.

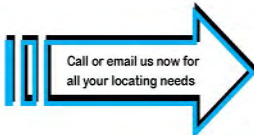
We work on commercial, residential, industrial and government properties

**We find buried:**

- Electric and Communication cables
- Water and Gas lines
- Sewer and Drainage pipes
- Metallic/Non-metallic pipes
- Tanks
- Cesspools/Drywells
- Manhole Covers
- Valves
- Pull-Boxes/Splice Boxes

Our employees are professional, courteous and accommodating

Visit our website  
[www.x-raylocating.com](http://www.x-raylocating.com)  
and fill out our  
*Mark-out Request Form*



**X-ray**  
Utility Locating Service  
(631) 979-2890  
[locator@optonline.net](mailto:locator@optonline.net)

*(The Rocks of Vermont continued from page 61)*

The last rock we are going to cover this quarter is serpentinite. Serpentinite is a dark green-colored rock that is composed of serpentine, a hydrous magnesium silicate mineral,  $(\text{Mg, Fe})_3\text{Si}_2\text{O}_5(\text{OH})_4$ . The rock is usually crisscrossed with white veins of calcite (calcium carbonate,  $\text{CaCO}_3$ ) and/or magnesite (magnesium carbonate,  $\text{MgCO}_3$ ). Serpentinite acquires a brilliant and durable surface when polished, and is a popular dimension stone used as building facings or decorative interior walls. Verde antique is the commercial name for polished serpentinite.

Serpentinite is commonly found as isolated, ultramafic (high amounts of mafic minerals containing iron and magnesium) bodies in Vermont and occurs primarily within a narrow zone in the Green Mountains that stretches from Massachusetts to Canada. Serpentinite was produced through an alteration of peridotite or dunite, ultramafic igneous rocks. Serpentinite in Vermont is believed to be remnants of oceanic crust that were incorporated with ocean sediments as continents collided and the Green Mountains were formed during the Taconic and Acadian Orogenies. The sample of serpentinite featured below was quarried in Rochester, Vermont.

*Photo credit— Vermont Geological Survey. No copyright infringement intended*



*(End)*

# JANUARY 2019 MEETING MINUTES

## NE SECTION – AIPG EXECUTIVE COMMITTEE MEETING MONDAY JANUARY 7, 2019

Distribution:

Jessica McEachern	Michael Grifasi	Bob Blauvelt
Jeff Frederick	Kelly Weyer	Luanne Whitbeck
Laurie Scheuing	Chris Brown	Brandon Tufano
Dennis McGrath	Jennifer Becker	Adelina Prentice
Dick Young		

### Call to Order (4:07 PM)

#### Secretary's Report:

Minutes were prepared by Jennifer Becker. The December 2018 meeting minutes were reviewed and one minor edit was recommended. A motion was made and seconded to approve the December 2018 minutes with one minor revision.

#### Treasurer's Report

**December 2018:** The NE Section Fund is currently in good standing. The Angelo Tagliacozzo Memorial Geological Scholarship (ATMGS) report for December 2018 shows that all of the gains of 2018, and then some, were used to fund scholarships for that year. Due to the fluctuations in the stock market, the fund finished the year down from the prior month. At the time of the report, the fund was up again and has recovered about half of the loss. The fund is down 6% for the year, however, compared to the general market losses, the fund fluctuation is about half of major indices.

#### Correspondence:

##### Student Chapter Updates:

*Brooklyn College* – Jennifer Becker reached out to the student body regarding a list for potential spring events and will provide an update in a few weeks. Brooklyn College is officially a chapter.

*Binghamton University* – The geology club has dissolved and Brandon Tufano has been unable to contact the student chapter. A few contacts were obtained of students that are still interested.

(January Minutes continued on page 70)

(January Minutes continued from page 69)

*SUNY Geneseo* – Michael Grifasi has not received any updates, and has no current contact.

Scholarship Updates: 23 total applications have been received, which is one short of the all-time high, and packages have been distributed to the scholarship committee. The goal is for the scholarship committee to review and provide recommendations to the Excom during the March meeting.

### **Old Business**

AT Scholarship – Perpetual Trust Fund Performance for 2018: The 2018 annual budget slightly exceeded the anticipated estimate; anticipated donations were less than anticipated. The section made up for it in contributions from prior years that allowed the full amount of scholarship awards without pulling from the fund itself.

### **New Business**

NE Section 2019 Budget: Some line items were adjusted to be more realistic. A discussion regarding budget for scholarship payout followed. The Excom discussed total scholarship payout in relation to current market conditions, as well as what would be considered as a more realistic amount given the available funds.

### 2019 Annual Meeting, Burlington, VT – Updates

Correspondence with National Regarding Sponsorship Revenue Sharing (update): The purpose of the discussion was to review sponsorship levels and exhibitor profit sharing presented. Jeff Frederick had a discussion with Aaron Johnson (National) about a tiered revenue sharing system and Aaron seems open to the discussion. A graduated sponsorship was discussed in order to obtain a larger share of each additional sponsorship we raise. Options about split levels between the section and national at each tier were discussed. Jeff will discuss with Aaron and report back to the Excom.

Field Trip Plans: Five field trips have been lined up with a tentative schedule based on availability.

Short Course Potential: The Excom discussed the offering of short courses as a way to motivate attendance. Environmental interest could be driven through short courses and talks, as it is difficult to do with a field trip. The possibility of granting CEUs for attendance with preapproval was also discussed.

(January Minutes continued on page 71)

**Additional discussion:** The Excom discussed the importance of not creating conflict between the proposed Section Raffle for the ATMGS fund and the National silent auction, currently scheduled for Sunday evening, September 15<sup>th</sup>.

### **Spring Meeting Planning**

The potential for a joint meeting with the New York State Council of Professional Geologists (NYSCPG) was discussed. A short discussion followed on revenue split to which Michael Grifasi indicated he would bring up with the NYSCPG.

### **Publications**

**Newsletter:** Brandon Tufano is currently preparing the holiday and winter newsletters. The holiday newsletter is a little late. However, the winter publication is expected to meet the current deadline. A request for content from the fall 2018 meeting was brought up and Jessica McEachern has provided a photo and a write up.

**Advertising Sales Update & Income:** Per Dick Young, invoices went out to current advertisers around mid-December. Some payments have been received. A request for contact information for companies not currently advertising in the newsletter was made, as the income generated from advertising makes a big difference in the total value of scholarship awards.

**Northeast GSA Meeting, March 2019:** Dennis McGrath requested to discuss the Geological Society of America (GSA) meeting being held in Portland, Maine on March 17-19, 2019. Previously, Dennis had attended as a representative of the NE AIPG section. A discussion followed on who could attend, the costs associated with attendance, as well as the benefits of an AIPG booth at the meeting. A motion was made and seconded to support both the shipment of the AIPG booth and attendance, less support received from National. Jeff or Dennis will find out if Aaron/National will be attending and if National is able to provide financial support for attendance.

### **Adjournment (6:11 PM)**

A motion was made and seconded with no discussion. Motion for adjournment passed and the meeting was adjourned.

# **FPM** Remediations, Inc.

*Environmental Remediation Services*

An **Olgoonik** Company

- ◆ HUBZone-Certified Small Disadvantaged Business
- ◆ Self-Perform Investigation/Remediation Activities at Sites Impacted by Environmental Contaminants and Munitions
- ◆ Specialize in Performance-Based Contracting
- ◆ Certified/Licensed Engineers, Geologists, Geophysicists, and Scientists and In-house Unexploded Ordnance Experts
- ◆ 20+ Years DoD Experience



**FIND OUT MORE AT: [WWW.FPM-REMEDIATIONS.COM](http://WWW.FPM-REMEDIATIONS.COM)**

# **GEO****SPHERE**

**ENVIRONMENTAL MANAGEMENT INC.**

**NEW HAMPSHIRE**

**MASSACHUSETTS**

**(603)-773-0075**

**(888)-838-6571**

**[WWW.GEOSPHERENH.COM](http://WWW.GEOSPHERENH.COM)**

**GROUNDWATER SUPPLY**

**SITE ASSESSMENTS**

**LSP SERVICES**

**GEOTHERMAL**

**WETLANDS**

**PROFESSIONAL CONSULTANTS PROVIDING  
GROUNDWATER & ENVIRONMENTAL SOLUTIONS**

## When in Vermont—Part 2

Round 2 of Vermont's finer things! The AIPG National Conference is approaching quickly; we're now five months away from kick off! Let's talk about a Vermont classic—Heady Topper. The brains behind this beer, John and Jen Kimmich, opened the Alchemist Brew Pub back in 2003 in the village of Waterbury (off of 89 between Burlington and Montpelier). In 2011, shortly after Tropical Storm Irene demolished their brew pub, the first cans of this delicious double India Pale Ale (DIPA) made their way out into the world (well, just in a small portion of Vermont). These days, you can find Heady Topper all over the State. This photo was taken at a restaurant located about one mile from my office in Oneida, NY. But it took some time to get to this point.



*The can requests you do not pour this beer—but then how would you see the golden color?*

The early days of Heady Topper were a time of scarcity, of long lines, and, for many, disappointment (for not having gotten any!). Having made its way to #1 on BeerAdvocate's top 250 (and remaining there for some time), this beer became an overnight hop star. Hopheads began making the pilgrimage to Waterbury in order to stand in line for hours, hoping to walk away with a few four-packs of this beer (and sometimes other Alchemist brews). And this went on for a long time... until 2016 when Alchemist opened their Stowe facility.

This beer put the Burlington area on the map for me. It inspired me to pitch Burlington as a conference location back when I was secretary of the ExCom. Plus, it changed the progression of beer. For one, it led to the proliferation of likeminded breweries in the area, something I will be forever grateful for. It also gave rise to the New England IPA (NEIPA), replacing, for many, the resinous and piney West Coast IPA (nothing wrong with this style!). Today, it has become the norm to see two to three NEIPAs on the draft list at many a pub. Something that would not have been possible, in my opinion, were it not for Heady Topper.

I realize I haven't said anything about what this beer tastes like and I'm not planning to because I want you to find out for yourself when you're in town this September. And if 8% ABV is a little too much for you, I'd recommend one of Alchemist's single IPAs, Focal Banger (7% is less than 8%).

**See you in September!**



- > environmental engineering
- > site assessments & remediation
- > environmental investigations
- > environmental services related to real estate transactions
- > storage tank management
- > hydrogeology/groundwater modeling
- > cost recovery litigation support
- > expert testimony
- > brownfields



**Mott  
MacDonald**

**Delivering Solutions**

*headquarters: Iselin, NJ  
offices across North America*

**800.832.3272**

**[www.hatchmott.com](http://www.hatchmott.com)**



## Environmental laboratory solutions provided for your most demanding applications.

The 6th largest environmental testing laboratory in the United States and the largest privately family owned laboratory in the country with more than 50,000 square feet of state-of-the-art laboratory facilities offering:



**Air**



**Sediment & Tissue**



**Forensic Petroleum**



**Regulatory Soil**



**Regulatory Water**



**Emerging Contaminants**

For more information please contact us at 800-624-9220  
info@alphalab.com  
www.alphalab.com

Westborough, MA | Mansfield, MA | Brewer, ME | Portsmouth, NH  
Mahwah, NJ | Albany, NY | Buffalo, NY | Rochester, NY | Syracuse, NY | Holmes, PA



## *Experience Sonic*

When it comes to unconsolidated formations, there is no better technology than Sonic. With drill speeds up to 4 times faster and as much as 80% less waste, environmental consultants are realizing significant results and value. Benefit from clear and undisturbed samples in overburden, sand, gravel, clay, cobbles, boulders, bedrock, and delicate formations.

Also consider that cutting-edge technology is only part of the story. **Summit Drilling's Sonic Division** has invested in the best people the industry has to offer. Our new sonic rigs are operated by highly skilled and specially trained drillers who deliver unmatched sample quality and efficiency in the field. *More importantly*, sonic represents the safest drilling technology to date. At Summit Drilling, safety is more than training. It's our company culture.

***Experience Sonic at An Exceptional Level. Call Summit Drilling and Speak with a Sonic Expert Today.***

***Now Open! Our Albany, NY Office  
Serving NY, CT & MA***

[www.summitdrilling.com](http://www.summitdrilling.com)



Drilling ■ Direct Push ■ Injection  
**An Exceptional Experience™**

**800-242-6648**



## Professional Geologic and Hydrogeologic Consulting

679 Plank Road, Clifton Park, NY 12065

[www.alphageoscience.com](http://www.alphageoscience.com)

### Mining Services

#### Hydrogeologic Investigation

- Impacts to surface and ground water
- Potential impacts from mine inflows
- Mitigation of mine inflows

#### Mineral Resources

- Resource and Reserve Analyses
- Aggregates, Sand, and Gravel
- Industrial Minerals, Metals and Salt
- Permitting

### Independent Laboratory Data Validation

#### Emergent Contaminants

- PFOS, PFOA, and other PFAS
- 1,4-dioxane

#### Quality Assurance/Quality Control

- Validation of soil, water, and air data
- Preparation of SOPs, QAPPs, and EDDs

Contact: John Nadeau, PG, CPG

[jnadeau@alphageoscience.com](mailto:jnadeau@alphageoscience.com)



COMPLETE ENVIRONMENTAL TESTING, INC.

Contact Robert Blake  
Technical Sales Representative

80 Lupes Drive  
Stratford, CT 06615

Tel (203) 377-9984  
Fax (203) 377-9952  
E-mail: [rblake@cetlabs.com](mailto:rblake@cetlabs.com)  
[www.cetlabs.com](http://www.cetlabs.com)

Serving Southern New England and Eastern New York

# Connecticut Test Borings, LLC

## Geotechnical and Environmental Drilling

- ◆ Hollow Stem Auger Drilling
- ◆ Soil Sampling - Rock Coring
- ◆ Monitor Well Installations
- ◆ Direct Push (Geoprobe®) Sampling



[www.connecticuttestborings.com](http://www.connecticuttestborings.com) • 203-888-3857 • fax 203-888-0655 • [ctblc@sbcglobal.net](mailto:ctblc@sbcglobal.net)



# Reliable.

Convenient Responsive Innovative

Your business objectives are our top priority. We deliver information on time so you avoid delays, surprises and costly mistakes down the road. For projects large and small, single- or multi-site, you can rely on consistent results nationwide.



Manchester, NH [603] 647 9700  
Offices Nationwide terracon.com

## Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

# 50 Years of Environmental Solutions in New Jersey

- Ground Water Investigation and Remediation
- Soil Investigation and Remediation
- Ground Water Supply Development
- Underground Storage Tank Investigation
- ISRA Compliance
- Environmental Site Inspections and Audits
- Brownfields Investigation and Permits
- Litigation Support and Expert Testimony
- LSRP Services



41 Spring Street, Suite 102  
New Providence, NJ 07974  
T: 908.988.1700 F: 908.464.3712  
[www.trcsolutions.com](http://www.trcsolutions.com)

GEI provides geotechnical, environmental, water resources and ecological consulting and engineering services. We provide these services from planning and design through construction and operations. Our clients include government agencies, institutions, industries, developers, utilities and professional service firms.



For more information  
contact Bob Blauvelt at  
973.873.7127  
[www.geiconsultants.com](http://www.geiconsultants.com)

GEI Consultants, Inc.  
300 Broadacres Drive, Suite 100  
Bloomfield, NJ 07003



**Concerned about Site Remediation Budgets,  
Timelines and Technology Performance?**



**We can help.**

- Scalable site remediation solutions for almost any budget
- Expertise and experience to meet timeline expectations
- Proven remediation technologies on over 20,000 sites worldwide
- Combined remedy approaches to maximize performance and cost savings

**www.regenesis.com**  
**(949) 366-8000**



*Providing Full Service Engineering, Planning and  
Construction Expertise to Our Clients for Over 50 Years*

*Imagine*

**What We Can Do for You!**

**CHA**  
www.chacompanies.com  
800.836.0817

# The Stephen B Church Company

Ground Water Solutions Since 1886

**Turbine Pumps**

**Pump Maintenance**

**Gravel Well Drilling**

**Well Rehabilitation**

**Ground Water Exploration**

**Well Video Inspection**

**Yield Testing**

*49 Great Hill Road    Oxford CT 06478*

*Phone 203 888 2132    Fax 203 888 1863*

[stephenbch@aol.com](mailto:stephenbch@aol.com)

[www.SBChurchCo.com](http://www.SBChurchCo.com)

# NE/AIPG 2019 PUBLICATION SCHEDULE

## Winter Newsletter

January 11	Deadline (Material to Editor)
January 25	Content to Publisher
February 11	E-mail to Members

## Directory of Members

February 11	Deadline (Material to Editor)
March 15	Content to Publisher
April 15	E-mail to Members

## Spring Newsletter

March 22	Deadline (Material to Editor)
April 5	Content to Publisher
April 22	E-mail to Members

## Indian Summer Newsletter

July 26	Deadline (Material to Editor)
August 16	Content to Publisher
September 3	E-mail to Members

## Holidays Newsletter

October 11	Deadline (Material to Editor)
October 25	Content to Publisher
November 11	E-mail to Members

**Please e-mail News, Info, & Articles to Brandon Tufano:**  
[btufano@rouxinc.com](mailto:btufano@rouxinc.com)

**For Advertising Rates & Info, Please Contact Dick Young:**  
[RYoungNJ@aol.com](mailto:RYoungNJ@aol.com)  
*cell 203-627-8085*

**ANGELO TAGLIACCOZZO MEMORIAL GEOLOGICAL  
SCHOLARSHIP PERPETUAL TRUST FUND  
LIST OF CONTRIBUTORS SINCE 1987**

**(All Contributors, Since Fund Inception Through March 2018)**

**FRIENDS OF THE FUND**  
**(\$1,000+)**

AQUIFER DRILLING & TESTING,  
INC.

BANINO, GEORGE

BLAUVELT, ROBERT P.

DIMMICK, CHARLES WM.

KASABACH, HAIG F.

LEGGETTE, BRASHEARS & GRA-  
HAM, INC.

MCGRATH, DENNIS G.

NORTHEAST SECTION – AIPG

REXRODE, H. LEONARD, JR.

ROUX ASSOCIATES

ROUX, PAUL H.

SCHIFFMAN, ARNOLD

SLAYBACK, RUSSELL G.

VALKENBURG, NICHOLAS

YOUNG, RICHARD H.

TORY

ECORENTAL

GAVRAS, JOHN M.

GRAFF, CAROL S.

HARRINGTON, JONATHAN

KLEIMAN, AMY

MAHIER, LUKE

MILLER, DAVID W.

NEUBECK, WILLIAM S AND JEAN M.

NOVA CONSULTING & ENGINEER-  
ING, LLC

PATOTA, JEAN M.

PVE SHEFFLER

RICH, CHARLES A.

RICHTER, DOROTHY

ROSENFELD, MORDECAI

SOILTESTING, INC.

WHITBECK, LUANNE AND DEAN

**BENEFACTORS (\$500+)**

CASCADE DRILLING, INC.

EMERSON, MARK

FPM REMEDIATIONS

FREDERICK, JEFFREY

HERRICK, DEAN H.

HIGGINS, JONATHAN B.

(IN MEMORY OF LEO HALL)

KAYLER, KYLE

MCEACHERN, MICHAEL

PROCE, CHRISTOPHER

STONE, TIMOTHY S.

**PATRONS (\$250+)**

AIRMAG SURVEYS, INC.

ALLEN, BOYD III

ALPHA ANALYTICAL

ANONYMOUS

BRINCKERHOFF, LAURA

(IN HONOR OF FRANK MCCAR-  
THY)

BURKE, MICHAEL R.

CON-TEST ANALYTICAL LABORA-

**SPONSORS (\$125+)**

ALPHA GEOSCIENCE

BROWN, CHRISTOPHER

CHAMBERLAIN, JOHN MARK

CLEMENS, ROBERT H.

DEANGELIS, JAMES

EGGERS, J.

ERM – NORTHEAST

FAKUNDINY, ROBERT

GRAHAM, JACK B.

GREENMAN, MICHAEL

HEINDEL, CRAIG AND CHAVES, JU-  
DITH

HINCE, ERIC

KOCH, ELLIS

KRAEMER, CURTIS A.

MATHEZ, MURIEL

PIERIBONI, JOHN

PREHODA, WILLIAM P.

SCHECHNER, CLAIRE AND LOUIS

SCHEUING, LAURIE

STANDISH, RICHARD

STEWART, ROBERT A.

TSACOYANNIS, NICHOLAS

URBAN-MEAD, RUSSELL B.

*(Contributors continued on page 85)*

*(Contributors continued from page 83)*

WASTE MANAGEMENT, INC.  
(MATCHING GIFT ON BEHALF  
OF GEORGE BANINO)

**CONTRIBUTORS (\$50+)**

ARGUDEN, A. TEVVIK  
BARISH, JAMES M.  
BECKER, ARTHUR E.  
BELL, DAVID L.  
BELT, EDWARD S.  
BUGH, JAMES  
DAVIS, R. LAURENCE  
ENVIRONMENTAL COMPLIANCE,  
INC.  
(ON BEHALF OF JOSEPH TORLUCCI)  
FLICK, WILLIAM  
GALLAGHER, EVELYN A.  
HANLON, KERRY  
HERMAN KARPEL MEMORIAL  
FUND  
(ON BEHALF OF FRIENDS  
OF RHODA TAGLIACOZZO)  
HNOTTAVANGE-TELLEN, KEN  
HOOPERHYDE, KEVIN J.  
HOUSMAN, JOHN J., JR.  
JONATHAN PAUL ASSOCIATES,  
INC.  
KACZOR, SOFIA  
KETANI, RALPH  
MASE, DAVID F.  
MASLANSKY, STEVEN P.  
MCEACHERN, JESSICA  
MOZER, ROBERT  
NEUBECK, WILLIAM S.  
PENN, WILLIAM E.  
RICE, JOHN  
RHYNER, JOHN  
RUSSO, LUIGI  
RYAN, MICHAEL J.  
SCOTT, DAVID  
SHOPE, STEVEN  
SILLMAN, ROBERT AND ROBERTA  
SPARROW, LESLIE  
ST. GERMAIN, DANIEL J.  
STOKES, KURTIS W.  
STONEHILL ENVIRONMENTAL,  
INC.  
TATLOCK, DEREK  
TIMMONS, ROBERT

TORLUCCI, JOSEPH  
TYERS, GEORGE  
WARING, ANDREW D.  
WENZ, KENNETH P.  
WERLE, CRAIG  
WEST, WILLIAM T.  
WOHLFORD, THOMAS

**DONORS (Up To \$50)**

BABLIN, CHRISTOPHER  
BARBOUR, RICHARD AND ROSE  
BECKER, JENNIFER  
BOWES, JAMES  
BRADLEY, MARGARET  
BUSA, MARK D.  
CLAUSEN, JAY  
COX, PETER  
FALDETTA, SARAH  
FOURNIER, LEROY  
FREDRICK, WILLIAM T.  
GANNETT FLEMING, INC.  
HAGER, JUTTA  
HARWOOD, DAVID G.  
HERGERT, DAVID  
HIXON, RICHARD A.  
KING, DANIEL  
KOWALSKI, RICHARD G.  
ROSS, LAUREN AND SHELLEY  
SASS, DANIEL B. (IN HONOR  
OF K. E. CASTER)  
SHAKTI CONSULTANTS  
SINNOT, JOSEPH  
SKEHAN, JAMES  
SPEIDEL, DAVID  
SUSCA, MICHAEL  
VOZZA, SCOTT  
WAYLAND, RUSSELL  
WEINSTOCK, ERIC  
WHERAN ENGINEERING

***Why Isn't Your Name  
On This List?  
Solve it!  
Simply see Pg. 84 & 86 and  
then  
Move into Action!***



## LEGGETTE, BRASHEARS & GRAHAM, INC.

Professional Groundwater and Environmental Engineering Services



### GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

- UST, RCRA, CERCLA
- Remedial Design & Implementation
- Property Transfer Assessments
- Second Opinion Reviews
- Water Supply
- Water Rights
- Computer Modeling
- Expert Testimony

SHELTON, CT  
203.929.8555

HARTFORD, CT  
203.929.8555

RAMSEY, NJ  
201.818.0700

WHITE PLAINS, NY  
914.694.5711

Offices Nationwide | Toll Free 800.657.5885 | [www.lbgweb.com](http://www.lbgweb.com)



# CaRICH

ENVIRONMENTAL SPECIALISTS

*Your Full-Service Environmental Expert Since 1982*

- Brownfield Experts
- Environmental Due Diligence
- Remedial Action
- Ground Water
- SEQRA / CEQR Approvals
- Water Resource Management
- Regulatory Compliance
- Air Quality / Vapor Intrusion
- Construction Oversight
- Document and Peer Review
- Litigation Support
- Strategic Thinking

17 Dupont Street, Plainview, NY 11803 ■ Tel. 516.576.8844  
Fax. 516.576.0093 ■ [www.carichinc.com](http://www.carichinc.com)

## **Celebrating 32 Years of Scholarships!** **The Angelo Tagliacozzo Memorial Geological Scholarship**

The Angelo Tagliacozzo Memorial Geological Scholarship was established by the Northeast Section of the American Institute of Professional Geologists in late 1986. The first Scholarships were presented to undergraduate Geology students in 1987.

ATMGS recognizes the dedicated leadership and service which Angelo provided to NE/AIPG, to AIPG, and to the geological profession, until his untimely passing on October 11, 1986. The Scholarship furthers Angelo's goal of acquainting young geologists with AIPG and with AIPG's importance to the geological profession.

### **ANGELO TAGLIACOZZO (1936 - 1986)**

Angelo Tagliacozzo received his doctorate in Geology from the University of Rome (Italy) in 1962. Thereafter, he worked in various positions as geologist, geophysicist, and hydrogeologist, which included assignments abroad, in the U.S., and with the United Nations. Angelo provided exemplary service to AIPG at the Section and National levels. He was a Northeast Section Executive Committee Member (1973-1982), Vice President (1977-1978), President (1979-1980), National Advisory Board Delegate (1981-1982), and Screening Board Chairman (1984-1986). Angelo's dedication to and leadership of the Northeast Section Screening Board has become the ultimate standard against which service in such a position is measured. Angelo also served as an AIPG National Executive Committeeman (1982); he was a vigorous advocate of measures to increase professionalism. Angelo was (and will be remembered as) a respected professional...and a friend.

### **THE SCHOLARSHIP**

NE/AIPG grants Scholarships to undergraduate geology students annually. The Scholarships are designed to help with the cost of summer field courses, textbooks, and other aspects of geological education. Scholarships are awarded, both on academic achievement and on financial need, to students enrolled in recognized geology programs at colleges or universities in New England, New Jersey, & New York.

### **YOUR CONTRIBUTIONS**

Your participation is encouraged in support of this dynamic memorial to Angelo and his recognition of the importance of AIPG to the geological profession. Contributions to the Scholarship Perpetual Trust Fund should be written to:

**Angelo Tagliacozzo Memorial Geological Scholarship Trust Fund**, and mailed to:

**NE/AIPG Geological Scholarship Trust Fund  
c/o Dennis McGrath, CPG  
P.O. Box 472  
Hastings-on-Hudson, NY 10706-0472**

*All Contributions* are invested perpetually, with earnings thereon used solely for the Scholarship. NE/AIPG bears all costs of administration. Please ask your employer about Matching your contribution, and Additional corporate contributions.

*For further information, contact Dennis McGrath:*  
[mcgrathdg@gmail.com](mailto:mcgrathdg@gmail.com) Cell: 914-424-8816

**Memorandum**

**To:** Dennis McGrath, Chairman, ATMG Scholarship, Northeast Section, AIPG

**From:**

**Date:**

**Re:** *I'm Taking the Pledge: I'M IN FOR 2019!*

Dear Dennis,

Just a quick note to let you know that I'm 100% with you when it comes to achieving the Section's goal of 100% participation in support of the Scholarship Perpetual Trust Fund during 2019, the 32nd Anniversary of the Scholarship! I agree with your encouragement that each and every Section Member make a contribution in accordance with their ability... and this is the one time when I don't want to be the odd person out!

***I'M IN FOR 2019!***

For 2019, the 33rd Anniversary, I'm considering pledging... Thirty Bucks A Week, Thirty Bucks A Month, or Thirty Bucks for the Year!

Now, I know that it could be more—and you know that it could be less!—but I am committed to contributing as much as I can, so I'm not going to delay it any longer: ***I'M IN FOR 2019!***

Yes, my personal budget is tight, but I figure that, somehow, I can set aside \$30 each month (aka the cost of daily lattes) this year to give back to the profession that has given me so much. Also, I just wanted to tell you I am delighted to know that every one of those hard-earned dollars that I contribute will be INVESTED in the Scholarship Perpetual Trust Fund, so that my contribution today can keep on giving, year after year!

And that makes me feel like my contribution really means something, both now and in the long term! I have thought it over, and I know how important 100% participation is for Section pride! So, Dennis, ***I'M IN FOR 2019***

Professionally yours,

\_\_\_\_\_

*Times are really (GREAT / poor), so I am pledging:*

\_\_\_\_\_ 30 Bucks A Week (\$1560 for 2019)

\_\_\_\_\_ 30 Bucks A Month (\$360 for 2019)

\_\_\_\_\_ 30 Bucks A Year (\$30 for 2019)

Other: \_\_\_\_\_ (Every little bit is better than nothing!)

\_\_\_ I'll make it easy on you; I have enclosed my check, made out to "Angelo Tagliacozzo Memorial Geological Scholarship Trust Fund."

\_\_\_ Please invoice me for my 2019 pledge by 10/31/19. I'll pay by 12/1/19.

Signed: \_\_\_\_\_

Name Printed: \_\_\_\_\_

Address: \_\_\_\_\_

*Mail this Pledge to:* NE/AIPG Geological Scholarship Trust Fund, c/o Bob Blauvelt,  
345 Stuyvesant Ave Lyndhurst, NJ 07071

- or -

*Email this Pledge to:* NE/AIPG Geological Scholarship Trust Fund, c/o Bob Blauvelt  
blauvelt@geiconsultants.com