

AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS

Northeast Section **NEWSLETTER**

Winter 2018

As Published on 02/22/2018



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AIPG NORTHEAST SECTION NEWSLETTER

WINTER 2018

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NEWSLETTER EDITOR/CO-EDITOR

Brandon Tufano/Matthew Rashty
Roux Associates, Inc.
209 Shafter Street
Islandia, NY 11749
631-630-2347 (Office)
631-232-2600 (Fax)
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

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**2018 NEAIPG EXECUTIVE
COMMITTEE
AND SUBCOMMITTEES**

PRESIDENT

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

PRESIDENT ELECT

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

PAST PRESIDENT

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

SECRETARY

Jennifer Becker
HDR Inc.
1 International Blvd, Floor 10
Mahwah, NJ 07495
Work Cell: (845) 664-5218
Fax: (201) 335-9301
Email: m.grifasi@fpm-remediations.com

TREASURER

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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@pvesheffler.com

Luke E. Mahier, CPG -8948
Parsons Brinckerhoff
One Penn Plaza
New York, NY 10119
Office: (212) 465-5255
E-mail: mahier@pbworld.com

Brandon Tufano
Roux Associates, Inc.
209 Shafter St.
Islandia, NY 11749
Office: (631) 630-2347
E-mail: btufano@rouxinc.com

Member at Large Vacancy
Laurie Scheuing, CPG-9898
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
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Office: (518) 475-1008
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17 Dupont Street
Plainview, NY 11803-1602
Office: (516) 576-8844 Fax: (516) 576-0093
E-mail: crich@carichinc.com

NEWSLETTER EDITOR

Brandon Tufano
209 Shafter St
Islandia, NY 11749
Office: (631) 630-2347
email: btufano@rouxinc.com

DIRECTORY OF MEMBERS EDITOR

Curtis A. Kraemer, CPG-06019
111 Van Cedarfield Road
Colchester, CT 06415
Office: 860-861-4644
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Fax: 973-335-9799
E-mail: ryoungnj@aol.com

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

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2018 Executive Committee Meeting Schedule:

January 8

March 12

May 16 (Spring Meeting TBA)

July 9

September 10

October 17 (Fall Meeting TBA)

December 10

Meetings are typically held from 4:00 to 6:00 pm at the offices of Louis Berger Group, Elmsford, New York or via teleconference.

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*Presidential
Ramblings
January 2018
By Jessica McEachern*



2018 Presidential Ramblings - Winter

Happy New Year, Northeast Section members! Along with welcoming in a brand new year, we've also welcomed in a new term of the AIPG-NE Executive Committee. I'd like to take the time to thank the outgoing members Chris Proce and Jean Patota for all their hard work and dedication to the section; Chris for his phenomenal job with the newsletter, and Jean for all her hard work in helping organize multiple Fall and Spring meetings. I'd also like to extend a warm welcome to our new member (and current newsletter guru), Brandon Tufano.

A new year brings a fresh level of excitement for the possibilities our Section can achieve. We are currently discussing ideas for the Spring

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(Ramblings continued from page 11)

meeting to be held in May, as well as the continuation of student chapters and the formation of new ones. We are also in serious discussion involving the future of the Angelo Tagliacozzo Memorial Geological Scholarship Fund (ATMGSF).

Speaking of which, I'd like to take a moment to brief you all on the outcome of our 2017 President's Challenge ATMG Scholarship Fund Drive held to commemorate the 30th Anniversary of the Fund. I am happy to report that we have received over **\$7,800** in donations from Section members! Well done!! As I have mentioned time and again, this Scholarship Fund would not be thriving as well as it has without the generous support of loyal members like you. You truly make a difference. Many thanks to those who rose to the challenge and helped out!

While we are very pleased with this outcome, there is a broader message behind this: doing your part should not be limited to special fund drives held every once in a while. It's good practice to develop a habit of contributing annually to the Fund that helps so many aspiring geologists make their goals and dreams a reality. These future professionals really do appreciate our help, as has been demonstrated in some of the notes of appreciation from scholarship recipients I have included in the regular President's Challenge Fund Drive emails.

Over the years, we have been seeking a goal of one hundred percent participation among Section members in contributing annually to the Fund. While we know that's not always possible - or feasible - for each member, the cliché "every little bit helps" is especially true in our case. Whatever you are able to donate, your gift will go a long way for years to come and we very much appreciate it. The self-sustainability of the Fund is crucial for the future of our profession.

Thank you again to all who have helped make this drive in honor of the Fund's milestone year such a success!

—Jessica

(End)

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**NE-AIPG Joint Fall Meeting and Field Exhibit
Event,
October 18, Syracuse, New York**



The Fall Meeting included a field demonstration event that was a huge success on October 18, in Syracuse. The afternoon-into-evening event

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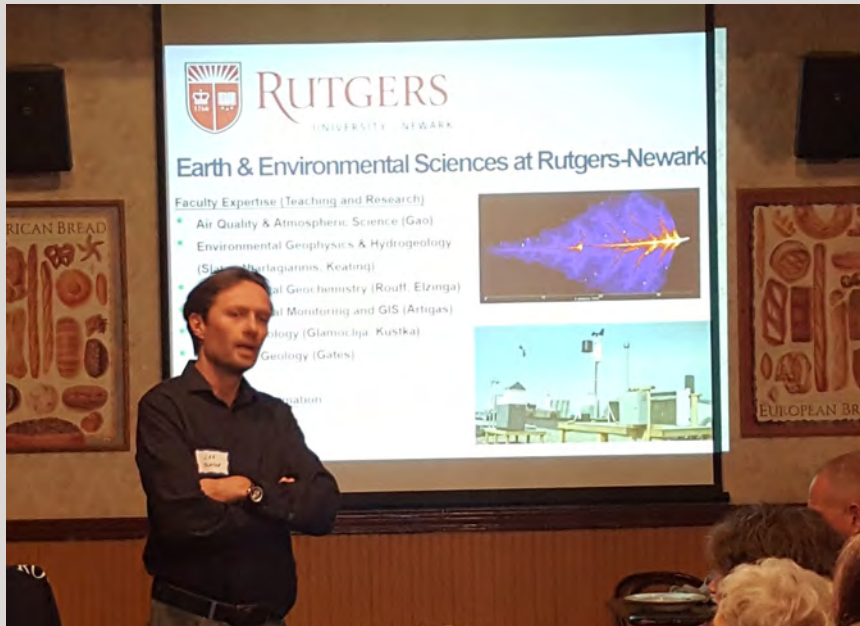


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was co-sponsored by three geological organizations including the Northeast Section of AIPG, the New York State Council of Professional Geologists (NYSCPG), and the Central New York Association of Professional Geologists (CNYAPG). It was 75 degrees and sunny – we simply couldn't have planned better weather in mid-late October in Central New York!

Approximately 65 people participated in the afternoon field demonstrations and 95 people attended the dinner and evening presentation. Following the field activities, the professionals and students alike enjoyed networking and dinner at the Spaghetti Warehouse in Syracuse where our featured speaker, Dr. Lee Slater of Rutgers University, New Jersey, presented basic principles and applications of down-hole geophysical methods for investigating and monitoring complex contaminated sites.



Dr. Lee Slater giving a very thought-provoking presentation!

Geology majors representing five local colleges in NY attended the

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field event. Among the 34 students (including a couple professors driving the ubiquitous college vans!) were 11 members from the NE-AIPG Student Chapter in Geneseo and 2 members from our Student Chapter at New Paltz. Also making the trip were 11 geology majors from Binghamton University, 6 from Onondaga Community College, 3 from Oswego, and one from Syracuse University. The previous Holidays Newsletter listed our generous sponsors and exhibitors but we would be remiss if we didn't also thank all the intrepid geologists (representing all three sponsoring geological organizations) who graciously volunteered their time and shared their skills in the field to make the day a success. The event raised more than \$1000 for NE-AIPG to benefit the Angelo Tagliacozzo Memorial Geological Scholarship Fund, which annually awards multiple academic scholarships to deserving geology majors throughout the eight states that comprise the Northeast Section of AIPG.

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Some of these photos were submitted by Guy Swenson, CPG-07574 and current President of CNYAPG, which is the local organization that assisted with logistical matters including the dinner venue. Dr. Michael Rygel, former NYSCPG President, and Cheryl Neary, 2018 NYSCPG President, helped coordinate the field activities and provided traffic signage. NE-AIPG member Dick Young (CPG-03356) also contributed photos, and President-Elect Michael Grifasi spearheaded the field event, securing the venue and main exhibitors based on his suggestion of demonstrating technologies to generate student interest. All three organizations contributed to a true joint event including sponsorships and advertising among local colleges – well done by all!



(Fall Meeting continued on page 19)



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ENVIRONMENTAL
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(Fall Meeting continued from page 17)



The above two photos show drillers from Parratt-Wolff demonstrating the use of membrane interface probes (MIP) and hydraulic profiling tools (HPT) during direct-push drilling while attendees took notes and asked questions. Special thanks to our friends at Parratt-Wolff, who were generous to provide their property and “Geoprobe” for live demonstrations.



The field exhibits featured drilling and in-situ technologies for investigating and monitoring environmental projects. It likely was the first time for many of the students to watch direct-push drilling live and the feedback was very positive for the entire event.

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Participants in the October 18 field event learned by demonstration and got a chance for their own hands-on experience using various methods for ground water purging and sampling technologies in actual monitoring wells on the Parratt-Wolff property.

(Fall Meeting continued on page 23)

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:
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NE-AIPG member Michael Grifasi CPG-11489 (above) demonstrated in-situ equipment and methods for well purging and sampling. Mike and fellow geologists from FPM Remediations guided the rotating audience of attendees in the techniques and nuances and of field work.

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The student geologists and professionals benefited alike to learn or refresh their rock and soil logging skills, demonstrated here (left) and above by Paul Freyer. Paul did a yeoman's job and enjoyed reinforcing basic logging skills that the geology students especially appreciated.

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NY Leak Detection demonstrated the use of ground penetrating radar (GPR) to locate underground utilities and other buried anomalies and structures such as storage tanks. The exhibits and demonstrations were coordinated to occur where known features were located. The attendees were free to roam about the various stations and meet the contractors to learn about investigation and monitoring technologies.

(End)



DECEMBER 2017 MEETING MINUTES

NE SECTION – AIPG
 EXECUTIVE COMMITTEE MEETING
 MONDAY DECEMBER 11, 2017

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Red Indicates Meeting Attendance

Call to Order (4:15 PM)

Secretary’s Report: Minutes were prepared by Jennifer Becker. The October 2017 meeting minutes were reviewed and minor edits recommended. A motion was made and seconded to approve the October 2017 minutes with minor revisions.

Treasurer’s Report: The successful fall meeting was organized by Michael Grifasi and Jean Patota. The section fund will finish out the year on strong financial footing having no outstanding obligations with the exception of a minimal reimbursement to the ATMGS fund for operating costs. Jessica and Dennis will discuss the membership drive and individual contributions made which helped raise over \$6,000 for the ATMGS fund later in the meeting. The Vanguard fund and checking account are strong, and doing well from the recent stock market climb. A motion made to accept the October and November 2017 Treasurer’s Reports and approved.

(Meeting Minutes Continued on Page 35)



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Student Chapters: SUNY Geneseo, Brooklyn, Buffalo:

Buffalo- There are no new updates to provide. Michael will reach out following the holiday break.

Binghamton - Chris Brown and Brandon Tufano are reaching out to the students to see if there is interest in the coming months.

New Paltz- Chris Brown recently visited the campus to hold a resume workshop with the AIPG student chapter. The event was well received and Chris will provide updates on any future events.

New Student Chapter Development- This year four applications for the ATMGS were from Rutgers University. Dennis McGrath suggested this may be a good opportunity to reach out to them regarding an AIPG student chapter. Bob Blauvelt reported it is his Alma Mater and through Lee Slater has tried to contact students to encourage involvement.

Old Business

o Angelo Fund – Solicitation of Local/Regional Sister Organizations- There are no new updates at this time.

o Status Report on President’s Challenge Fundraiser – As of December 2017 the challenge has raised \$6,275 dollars! Jessica will send an email in the coming days to summarize the success of the fundraiser, and providing a “last call” reminder to contribute prior to the end of the year. There was a reminder to the Ex-Com members that the goal of 100% participation has still not been met.

o Future of AT Scholarship- The Ex-Com will continue to research foundations or corporations to endow the ATMGS with sufficient funding or future contributions.

Scholarship Applications Update- The deadline was December 7th for applications both online through the portal and via mail. The online portal was successful and applications were received by Dennis McGrath. The applications will be compiled and a scoring

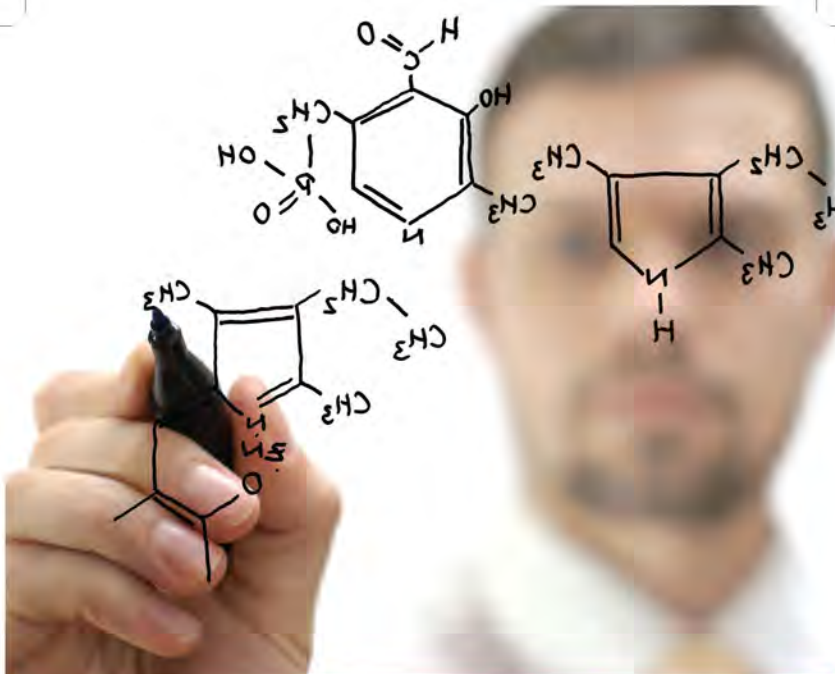
excel will be generated to include all applicants and criteria.

This is the first year that Dennis sent out an email notification instead of a mailing for the application forms and announcements using the database of facility sponsors. Eighteen applications have been received from the following colleges: University of Maine, Rutgers, SUNY New Paltz, SUNY Stony Brook, SUNY Potsdam, SUNY Brockport, Boston University, St. Lawrence University, Stockton University, and Barnard College. There were no applications from a few universities that historically provide applicants including Union College, SUNY Binghamton, and Brooklyn College. This year there were eight students that successfully completed their application online compared to last year’s one submittal.

A few of the highlighted issues include limitations of the web provider, crashes, and losing data. Two students applying online did not get the confirmation notification that their data was accepted. Dennis did not get the auto-generated email, and he suspects they were submitting at the same time which caused the system to crash. Dennis extended the deadline for those students due to the extenuating circumstances.

A few possible upgrades for the 2018 process include format revisions to the application to address concerns about total income, and a possible save option while uploading to the site. Following the consolidation of the application packages to reviewers, the topic will be discussed to include a list of revisions and a plan to address them for the 2018 process. Dennis is optimistic regarding next year.

Development of Local “Chapters” within NE Section- The topic was tabled for January 2018 Ex-Com Meeting.



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New Business

- o Results of NE Section ExCom Elections- Votes are in and the NE AIPG section would like to welcome Brandon Tufano and congratulate Laurie Scheuing and Chris Brown into three at-large positions of the Ex-Com. The NE AIPG would also like to thank Chris Proce for his service, especially in regards to the newsletter!
- o NE Section 2018 Budget- Bob requested that any specific project funding requests be made at this time so he can include them in the 2018 NE Section Budget. He will compile everything in the next month so if there are costs related to supporting student chapters or other events please contact Jessica and Bob. Dick Young inquired on any seed money necessary in 2018 for the 2019 national annual meeting. Jeff Fredrick confirmed that no money would need to be allocated at this time from the NE section. The only money that will be needed in 2019 would be for any short courses or extra revenue generating events, as well as content.
- o 2018 Meeting Schedule- The 2018 Ex-Com meeting schedule has been confirmed as follows: January 8th, March 12th, May 16th (Spring Meeting), July 9th, September 10th, October 17th (Fall Meeting), and December 10th.
- o 2019 National Meeting Logistics/Ideas- There are no new updates at this time.
- o 2018 Spring Meeting - Potential locations for the Spring NE Section meeting were discussed. Both Manhattan and the lower Hudson Valley were considered for possible meeting locations. Bob Blauvelt suggested hosting in Manhattan with the NY Academy of Sciences. They host astronomy, physics and biology nights that AIPG could partner with. Dick Young suggested hosting the Spring Meeting at Lamont Doherty in Palisades, NY. Chris Brown said he could reach out to Dave Goldberg to see if he would be interested in hosting.

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(Meeting Minutes Continued from Page 39)

o Publications-

• Newsletter- The 2017 holiday newsletter was just released. Brandon would like to thank everyone who provided content. He is looking forward to next year and is currently reaching out to NYSDEC for conservation areas and research projects to bring diversity into the content. He also wants the student chapters to get involved in publishing articles in the 2018 additions. The next newsletter will be released January 12th which will include the updated 2018 directory that Kurt Cramer has agreed to provide. Advertising Sales Update & Income- Dick provided the update that invoices will go out in the coming weeks for the newsletter. Checks from invoicing we receive will be reflected in the January 2018 Treasurer's Report.

Adjournment (6:00 PM) A motion was made and seconded with no discussion. Motion for adjournment passed and the meeting adjourned.

(End)



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Western Canada Sedimentary Basin Evolution

By: Brandon Tufano

Introduction

The Western Canada Sedimentary Basin (WCSB) is a composite term used to describe the western edge of modern Canada that includes rift basins, passive margin sequences, and a foreland basin system (Mossop and Shetsen, 2012). The basin covers much of Alberta, Saskatchewan, British Columbia, the Northwest Territories, and northern Montana in the United States. Upper Proterozoic rifting marked the onset of sedimentation in the WCSB with up to 24 kilometers of sediment deposited prior to the Middle Cambrian. Post Cambrian sedimentation on a passive margin added at least an additional 6 kilometers of strata locally (Hein and McMechan, 1994). The collision of several terranes along the western margin of North America during the Middle to Late Jurassic formed the western North American Cordillera and led to flexural subsidence and formation of a foreland basin (Figure 3; Price, 1994; Gillepsie and Heller, 1995; Fuentes, et al., 2009). Mesozoic and Cenozoic sediments deposited in this foreland basin, currently unconformably overlain by Quaternary strata, form

(Article Continued on page 44)



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a clastic wedge that thins eastward from approximately 6 kilometers in front of the fold and thrust belt to a zero edge along the Canadian Shield (Figure 2).

During the Upper Jurassic foreland basin phase mature sediments of the Fernie Formation (Figure 4), derived from the Canadian Shield, were deposited across Alberta and Saskatchewan (Poulton et al., 1994). Studies of the overlying Kootenay Formation and younger strata in the western portion of the basin indicate less mineralogically mature sandstones, suggesting a largely western provenance in the newly uplifted rocks and allochthonous terranes of the Cordillera (Poulton et al., 2015, Ross et al., 2005). This volcanic-feldspathic signature derived from the collisional belt is not seen in eastern portions of the basin until the upper Mannville time during deposition of the Grand Rapids (Figure 4) and equivalent strata (Hayes et al., 1994).

Sedimentation was largely continuous from the passive margin phase into the foreland basin phase throughout northern British Columbia and western Alberta. However, in central and eastern Alberta and Saskatchewan a major unconformity separates the foreland basin fill from underlying strata of mainly Paleozoic and Precambrian age. In southern Alberta, this unconformity erodes into Mesozoic rock such as the Jurassic Kootenay Group and Fernie Formation. Locally, the unconformity is overlain by the Upper Jurassic/Cretaceous Success Formation within fluvial paleovalleys (Christopher, 2003 and Poulton et al., 1994). The Success Formation is overlain by a second unconformity, the sub-Mannville unconformity, which marks the base of the McMurray Formation and its homologues (Poulton et al., 1994). Over much of the study area the Success Formation was either not deposited or eroded, thus the sub-Success and sub-Mannville unconformities form a composite erosional surface. Differential weathering along this unconformity, as well as dissolution of Paleozoic salt layers by meteoric waters contributed to the paleotopography over which the basal foreland basin sequence was deposited (Hayes et al., 1994).

(Article Continued on page 45)

Foreland Basins

Foreland basins exist along convergent plate boundaries and can be generalized as elongate troughs that roughly parallel the fold and thrust belt (Angevine et al., 1993, DeCelles and Giles, 1996, and Ross et al., 2005). The basin itself is a consequence of lithospheric flexure generated by the load of the over-riding plate or terrane and sediments that fill the basin (Angevine et al., 1993 and Beaumont, 1981). The basic foreland basin contains four discrete segments (Figure 5), the wedge top, the fore-deep, the forebulge and the backbulge (Horton and DeCelles, 1997). The foreland basin sequence of the WCSB is a retroarc foreland and its inherent location at the front of a moving load means that by definition it should advance congruently with the fold and thrust front (Angevine et al., 1993).

Foreland Basin Subsidence of the WCSB

It is widely agreed that the initiation of foreland basin subsidence along the thrust front of the Cordillera began in the Middle to Late Jurassic c.a. 170 Ma (Fuentes et al., 2009) and is largely concordant across the orogenic front from Canada into the United States (DeCelles and Currie, 1996, Miall, 2009 and Ross et al. 2005). Despite this consensus, there is contention over the finite timing of foreland subsidence along the strike of the basin. Gillespie and Heller (1995) suggest that subsidence along the Canadian belt began ca. 150 Ma with subsidence in Montana beginning 40 million years later. This diachroneity has profound implications on the deposition of early basin fill.

As mentioned above, the segments of a foreland basin typically migrate away from the hinterland as the orogenic wedge builds toward the foreland. However, Yang and Miall (2009) suggested that during the Cenomanian the forebulge and back-

bulge migrated towards the orogenic front based on a detailed study of isopach maps used as a proxy for basin subsidence. They suggest this was a consequence of changing orogenic vectors or changes in the position of the thrust load. Sediments were deposited in this retro-foreland basin until the Eocene (Dawson et al., 1994), forming an eastward thinning wedge that is approximately 5 km thick in front of the present-day fold and thrust belt, and pinches out onto the Canadian Shield (Price, 1994, Wright et al., 1994).

Figures:

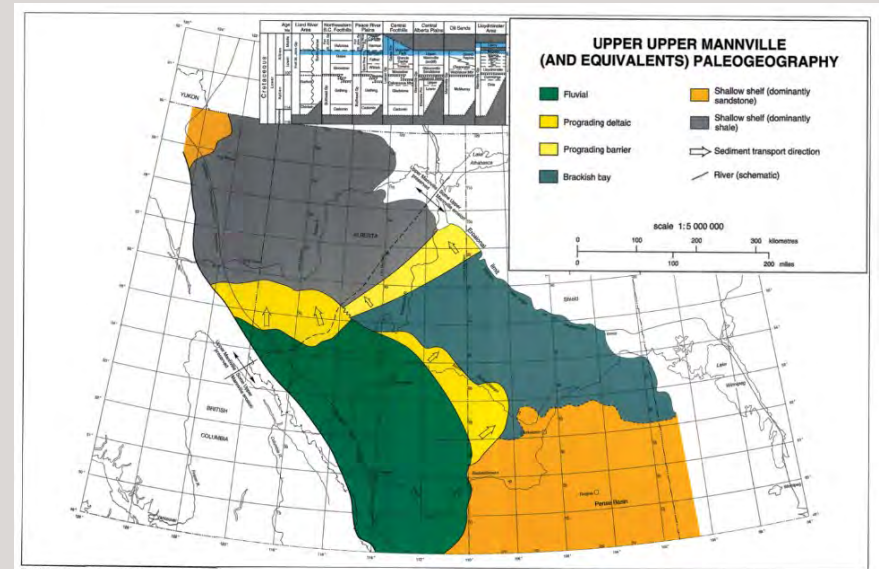


Figure 1.

Simplified gross depositional environment map of Upper Manville and equivalent strata. Colors define dominate depositional environment and processes. From Smith, 2012.

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From the Editor

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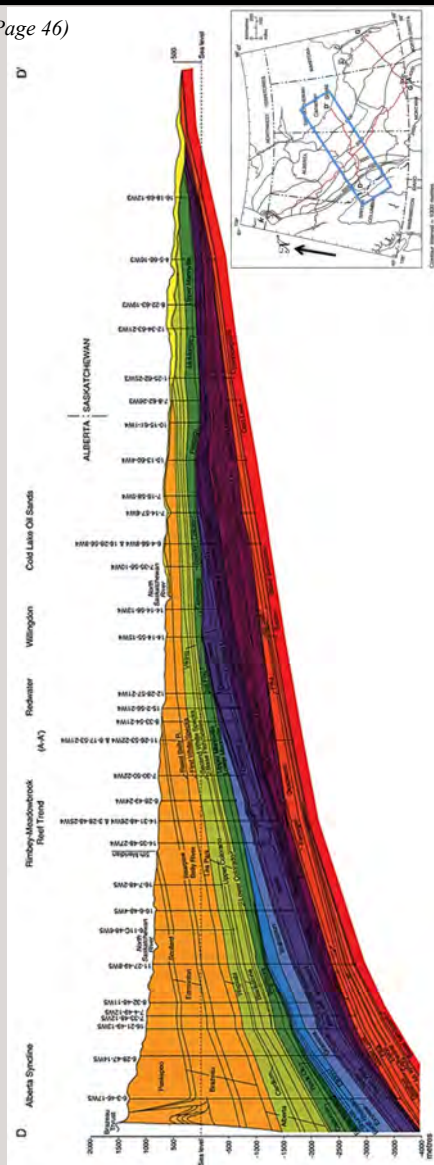


Figure 2.
Regional cross section depicting stratigraphic accumulation across middle Alberta and Saskatchewan. Thickest accumulations exist in the west at the front of the orogenic wedge and thin northeastward. Modified from Price 1994.

(Article Continued on page 50)

(Article Continued from page 49)



Figure 3.
Regional paleogeography map of North America during the Lower Cretaceous showing the Columbian fold and thrust belt and retroarc foreland basin covering Alberta, Saskatchewan and the United States Midwest. From Blakey, 2011.

(Article Continued on page 52)

If you have a suggestion for a future section meeting presentation, venue, or field trip, reach out to the NE/AIPG team and share your ideas and opinions.

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	Group	Formation	Member	Formation		
Lower Cretaceous	Mannville	Grand Rapids	Colony	Pense	Manville	
			McLaren			
			Waseca	Canter		
			Sparky			
			General			
			Petroleums (GP)			
			Clearwater			Rex
			McMurray			Lloydminster
			Cummings			
			Dina			
	Success		Success			
Jurassic	Kootenay	Elk				
		Mist Mountain				
		Morrissey				
		Fernie	Upper Fernie			

Figure 4.

Stratigraphic correlation between Alberta and Saskatchewan for Upper Jurassic and Lower Cretaceous units. After Kohlruss et al., 2010.

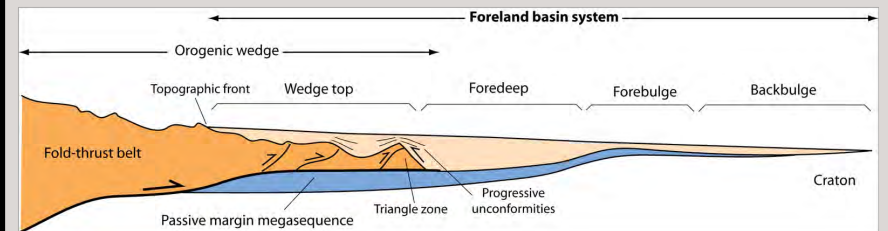


Figure 5.

Schematic cross section of the foreland basin system (modified from DeCelles and Giles, 1996).

(Article Continued on page 55)

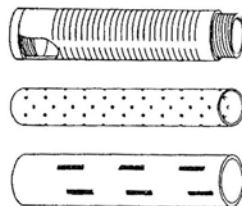
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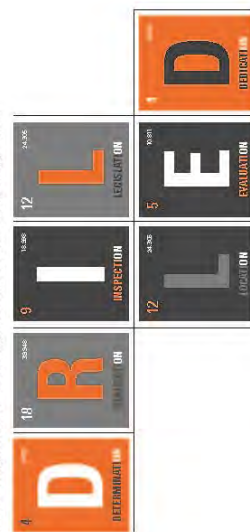
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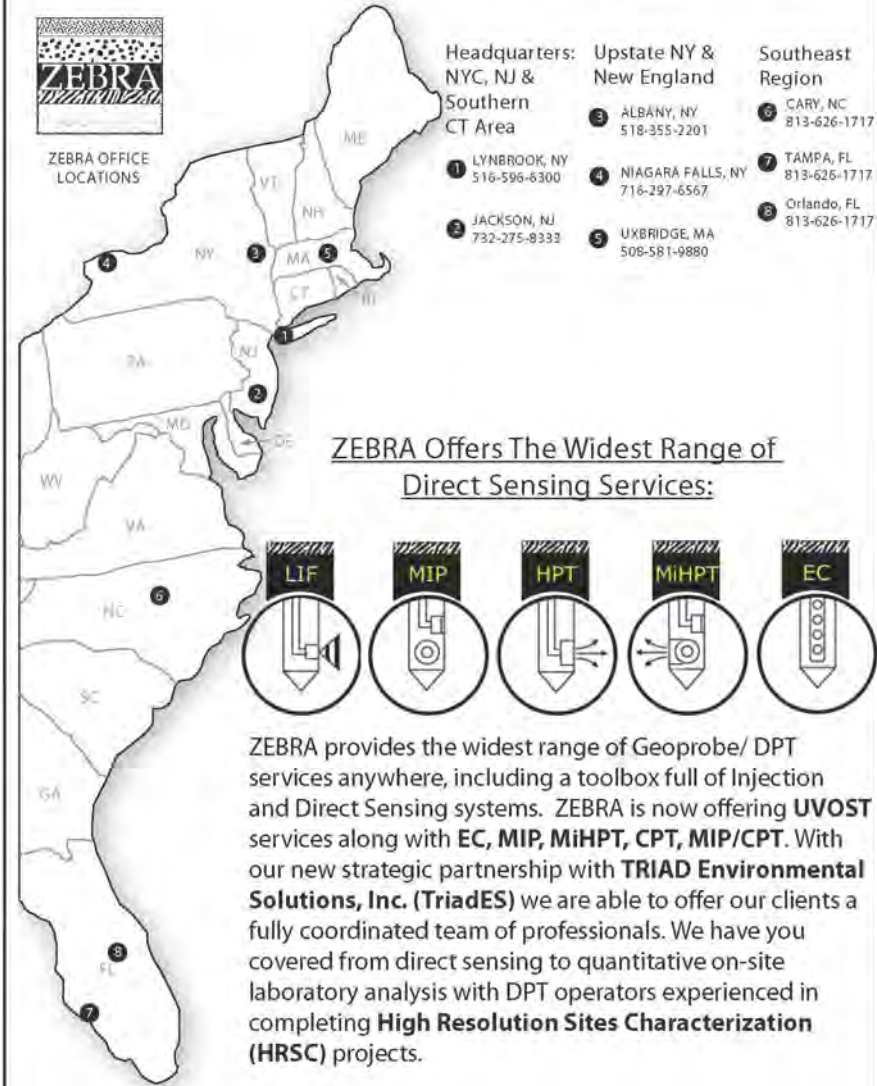


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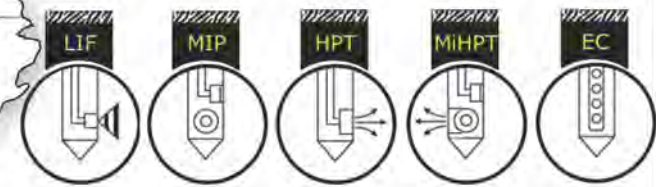


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Scientists hone in on a potential Anthropocene 'Golden Spike'

Adapted from: Science Daily, January 15, 2018

It seems that every few months the topic of whether we are entering a new geologic Epoch is brought back into the light. A research group from the University of Leicesters presented their findings are argument of the inclusion of the Anthropocene in a article published in *Earth-Science Reviews*.

The international working group, which includes geologists Jan Zalasiewicz, Mark Williams and Colin Waters, from the University of Leicester's School of Geography, Geology and the Environment and archaeologist Matt Edgeworth has, since 2009, been analyzing the case for formalization of the Anthropocene, a potential new epoch of geological time dominated by overwhelming human impact on the Earth.

The group has found that a broad range of potential physical, chemical and biological markers characterize the Anthropocene, the clearest global markers being radionuclide fallout signals from nuclear testing and changes in carbon

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chemistry through fossil fuel burning -- these in particular show marked changes starting in the early to mid-1950s.

The group, with a number of invited scientists, has now reviewed present knowledge on where these and other markers form the clearest, sharpest, and most stable signal in strata that might be used to define the Anthropocene as a formal unit of the Geological Time Scale.

The current study, which is published in the journal *Earth-Science Reviews*, informs the scientific community where they should start the process of collecting and analyzing continuous core samples of strata across the proposed Holocene-Anthropocene transition.

The study considered a range of arguments in support of and against hosting a 'golden spike' in a range of potentially suitable environments across the globe. They found that Anthropocene strata are often thin -- but also that they are globally distributed and may be clearly recognized by geologists.

Professor Colin Waters, who led the study, said: "Of the 65 'golden spikes' of the Geological Time Scale currently ratified, all but one are located in strata that accumulated on the sea floor, the one exception being the ice core used to define the base of the Holocene Epoch. "This study considers

(Article continued on page 63)

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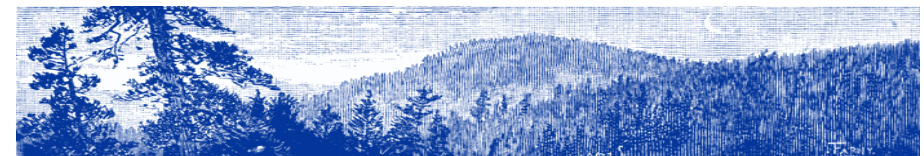


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(Article continued from page 61)

those environments in which the very short history of the Anthropocene is best recorded. In addition to such traditional geological strata, we have also considered human-generated deposits, sediments accumulating in lakes, estuaries and deltas, peat bogs, cave mineral deposits and even biological hosts such as corals and trees. The presence of annual layers or growth rings within many of these provides geologically unprecedented accuracy in the placement of the primary reference marker, wherever this might be ultimately chosen."

Professor Jan Zalasiewicz said: "This preliminary assessment of potential 'golden spike' locations around the world is important in that it clearly shows we are spoilt for choice - there are very many possibilities where the Anthropocene might be effectively defined. Now we have a lot of work in front of us in examining the most promising locations in enough detail to really pin down how the Anthropocene might be clearly and precisely recognized around the world."

Professor Mark Williams said: "The range of environments we are working with is remarkable -- from polar ice and snow layers to deep lake and sea floors to the skeletons of reef corals and stalactites in caves. The fact that signals of the Anthropocene are so sharply visible in all of these

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shows just how pervasive human impact has been on the planet in post-war times."

Scientists within the Anthropocene Working Group are working towards developing a proposal, based upon finding a 'golden spike', more technically known as a Global Boundary Stratotype Section and Point (GSSP).

This is a reference level within recent strata somewhere in the world that will be proposed to most clearly and consistently characterize the changes as the Holocene, which represents the last 11,700 years of geological time on this planet, gave way into the Anthropocene about 65 years ago.

(Article continued on page 65)

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Once this detailed work is completed in a few years' time -- a required part of the process in seeking formalization of the term by a number of geological bodies -- it will first be submitted for scrutiny to the Sub-commission on Quaternary Stratigraphy of the International Commission on Stratigraphy. There is no guarantee, though, that the proposal will be accepted.

Citation:

Colin N. Waters, Jan Zalasiewicz, Colin Summerhayes, Ian J. Fairchild, Neil L. Rose, Neil J. Loader, William Shotyk, Alejandro Cearreta, Martin J. Head, James P.M. Syvitski, Mark Williams, Michael Wagemich, Anthony D. Barnosky, An Zhisheng, Reinhold Leinfelder, Catherine Jeandel, Agnieszka Gałuszka, Juliana A. Ivar do Sul, Felix Gradstein, Will Steffen, John R. McNeill, Scott Wing, Clément Poirier, Matt Edgeworth. Global Boundary Stratotype Section and Point (GSSP) for the Anthropocene Series: Where and how to look for potential candidates. *Earth-Science Reviews*, 2017; DOI: [10.1016/j.earscirev.2017.12.016](https://doi.org/10.1016/j.earscirev.2017.12.016)

University of Leicester. "Scientists home in on a potential Anthropocene 'Golden Spike': Anthropocene Working Group led by University of Leicester scientists and invited specialists review the potential settings where a global reference section for the Anthropocene might be searched for." ScienceDaily. ScienceDaily, 16 January 2018. <www.sciencedaily.com/releases/2018/01/180116131322.htm>.

Materials provided by [University of Leicester](http://www.le.ac.uk). Note: Content may be edited for style and length

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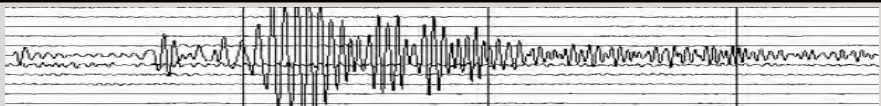
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Tectonic Summary of the January 23, 2018 M 7.9 Kodiak Earthquake

The January 23, 2018 M 7.9 earthquake southeast of Kodiak Island in the Gulf of Alaska occurred as the result of strike slip faulting within the shallow lithosphere of the Pacific plate. Focal mechanism solutions indicate faulting occurred on a steeply dipping fault striking either west-southwest (left lateral) or north-northwest (right lateral). At the location of the earthquake, the Pacific plate is converging with the North America plate at a rate of approximately 59 mm/yr towards the north-northwest. The Pacific plate subducts beneath the North America plate at the Alaska-Aleutians Trench, about 90 km to the northwest of today's earthquake. The location and mechanism of the January 23rd earthquake are consistent with it occurring on a fault system within the Pacific plate before it subducts, rather than on the plate boundary between the Pacific and North America plates further to the northwest.

While commonly plotted as points on maps, earthquakes of this size are more appropriately described as slip over a larger fault area. Strike-slip-faulting events of the size of the

(Article continued on page 69)

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January 23, 2018 earthquake are typically about 230x30 km (length x width).

Large earthquakes are common in the Pacific-North America plate boundary region south of Alaska. Over the preceding century, 11 other M7+ earthquakes have occurred within 600 km of the January 23, 2018 earthquake. Most of these have occurred on the subduction zone interface between the two plates, to the north and northwest of today's earthquake, including the M 9.2 Great Alaska earthquake of March 1964. The hypocenter of the 1964 event was located about 550 km to the north of the January 23rd earthquake, and the rupture of that event broke much of the shallow subduction zone interface over several hundreds of kilometers. To the southeast of the Alaska Trench, two large (M 7.9 and M 7.8) strike slip earthquakes occurred in November 1987 and March 1988, respectively, several hundreds of kilometers to the east of the January 23, 2018 earthquake. These two earthquakes are not known to have caused any casualties or damage.

USGS, Tectonic Summary. Retrieved January 28, 2018, from <https://earthquake.usgs.gov/earthquakes/eventpage/us2000cmy3#executiv>

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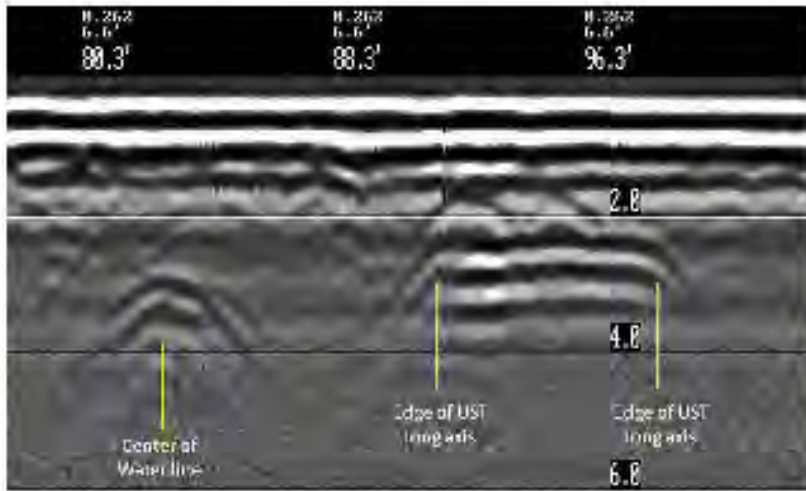
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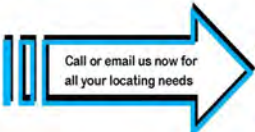
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Solve it!*
Simply see Pg. 32 & 91 and then
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NE/AIPG 2018 PUBLICATION SCHEDULE

Winter Newsletter

January 12	Deadline (Material to Editor)
January 26	Content to Publisher
February 12	E-mail to Members

Directory of Members

February 12	Deadline (Material to Editor)
March 16	Content to Publisher
April 16	E-mail to Members

Spring Newsletter

March 23	Deadline (Material to Editor)
April 6	Content to Publisher
April 23	E-mail to Members

Indian Summer Newsletter

July 27	Deadline (Material to Editor)
August 17	Content to Publisher
September 4	E-mail to Members

Holidays Newsletter

October 12	Deadline (Material to Editor)
October 26	Content to Publisher
November 12	E-mail to Members

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Celebrating 30 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, & NY.

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

Cell: 914-424-8816

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Memorandum

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

From:

Date:

Re: *I'm Taking the Pledge: **I'M IN FOR 2018!***

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 2018, the 30th 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 2018!

For 2018, the 30th 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 2018***

Yes, my personal budget is tight, but I figure that, somehow, I can set aside \$30 each month (aka the cost of a daily latte) this year to give back to the profession that has given me so much. And I just wanted to tell you that 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 2018!***

Professionally yours,

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

____ 30 Bucks A Week (\$1560 for 2018)

____ 30 Bucks A Month (\$360 for 2018)

____ 30 Bucks A Year (\$30 for 2018)

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 2018 pledge by 10/31/18. I'll pay by 12/1/18.

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