



## History of the Salt City

By Dr. Bill Kappel, United States Geological Survey, Ithaca, NY

From the late 1700s through the early 1900s, brine from springs in and around Onondaga Lake, from former brine wells at the lake's edge, and from wells that tapped halite beds near Tully, NY, were used commercially for salt production. The rapid development of this industry in the 18<sup>th</sup> and 19<sup>th</sup> centuries led to Syracuse's nickname "The Salt City." The brine originates from halite beds of the Salina Group shales of central New York. The dissolution of halite by groundwater creates brine that moves through an unconfined basal aquifer northward to the springs near Syracuse.

This presentation will discuss the history of salt production in the Syracuse area and will explain the origin of the halite deposits and the groundwater flow paths from the halite beds to Onondaga Lake. It will also discuss the need to understand the hydrogeology of the Onondaga Valley and potential changes in water quality (specifically salt water) in relation to ongoing remediation of Onondaga Lake and its surrounding watershed.

The meeting will take place on **Thursday, October 11 at the Genesee Inn**, 1060 East Genesee Street, Syracuse, NY. From **5 p.m. to 5:30 p.m.** there will be a short course sponsored by Columbia Analytical Services, Inc. The talk will discuss passive diffusion

bag samplers for the collection of groundwater samples for volatile organic analysis. There will be a **cocktail hour from 5:30 p.m. to 6:30 p.m.** **Dinner will be at 6:30 p.m.** and our featured speaker, Dr. Bill Kappel, will begin his **talk at 7:30 p.m.** The cost of dinner is \$17 for members, \$20 for non-members, and \$15 for student members. Please RSVP by Monday, October 8, to Bonnie at Parratt-Wolff via e-mail at [bolney@pwinc.com](mailto:bolney@pwinc.com) or 437-1429.

**Directions to Genesee Inn:** To get to the Genesee Inn, take the Teal Avenue exit south from Route 690. Go approximately 1 mile (crossing Erie Boulevard) and turn west onto Genesee Street. The inn is on the south side of the street, between Crouse and University Avenues. The phone number of the Inn is 476-4212.

**Our November meeting** will take on Thursday, November 8 at the Genesee Inn, and will feature Mr. C.B. Melton, FMC Corporation with a talk entitled "Chemical/Biological Terrorism: Good Science or Science Fiction?" Prior to the dinner meeting, there will also be a short course sponsored by Parratt-Wolff. Further details of the November meeting will be provided in next month's newsletter.

## Calendar

Wednesday, October 10, 2001	<a href="#">HMPGA</a> Monthly Dinner Meeting "Geologic Explanations for the Great Biblical Myths," Cranberry Bog Rest., Colonie, NY. Contact <a href="#">Diane Triani</a> at (518)783-1805 or e-mail <a href="mailto:alphageo@aol.com">alphageo@aol.com</a>
Thursday, October 11, 2001	CNYAPG Monthly Dinner Meeting, Genesee Inn, Syracuse. Dr. Bill Kappel, USGS, "History of the Salt City." Columbia Analytical Services, Inc. short course on passive diffusion bag samplers from 5 p.m. to 5:30 p.m. Cocktail hour from 5:30 p.m. to 6:30 p.m. Dinner at 6:30 p.m. Talk at 7:30 p.m.
October 12-14, 2001	<a href="#">NYSGA 73<sup>rd</sup> Annual Meeting</a> , Lamont Doherty, Palisades, NY. "The Hudson River: Historical and Environmental Geology". <a href="http://www.ldeo.columbia.edu/~polsen/nysga/nysga.ldeo.html">Http://www.ldeo.columbia.edu/~polsen/nysga/nysga.ldeo.html</a> Contact <a href="#">Dr. Paul E. Olsen</a> at (845)365-8491 or <a href="mailto:polsen@ldeo.edu">polsen@ldeo.edu</a>
Wednesday, October 17, 2001	BAPG Monthly Dinner Meeting, TBA. Contact <a href="#">Carol Yamarino</a> at (716)684-8060 or e-mail <a href="mailto:cymarino@ene.com">cymarino@ene.com</a>
Thursday, November 8, 2001	CNYAPG Monthly Dinner Meeting, Genesee Inn, Syracuse. Mr. C.B. Melton, FMC Corporation, "Chemical/Biological Terrorism: Good Science or Science Fiction?" Parratt-Wolff short course before the talk. More details in the next newsletter.
Thursday, December 13, 2001	CNYAPG dinner and talk at the Genesee Inn, Syracuse. Dr. Bruce Selleck of Colgate University, "Tully Valley Modeling." <b>PLEASE NOTE SCHEDULE CHANGE.</b>



## OUR PRESIDENT'S VOICE

By Bill Morrow

I am writing this letter to you one day before our first meeting. As of now, we have 53 folks pre-registered for our visit to Clark Reservation. This is a great turnout for a September meeting! We believe that this number is reflective of the lower cost of the associated dinner, the "general" nature of the topic and the thought of getting outside for a beautiful evening!

Our next meeting should be as equally enjoyable. Bill Kappel is a great speaker with always an entertaining story to tell! For you readers from the other Technology clubs, I hope you will give our monthly meetings a try. The folks that make up CNYAPG are a friendly bunch and would gladly welcome your attendance. We look forward to seeing you soon!

## Something to Consider for Field Sampling Programs

By Bill Morrow

I received a contract yesterday that included a detailed work plan. The work plan requires that 3 liters of soil be collected directly above the water table. The contract calls for the driller to collect a soil sample at this location with a Shelby tube or a split spoon sampler. No problem right? Wrong!

to prove this sampler is inappropriate for the conditions, a 3" split spoon will be attempted without success, and a 2" split spoon driven a full 2', yielding not enough soil to meet the project requirements. The net result is lost field time. With a little prior planning, a bowl would already be onsite for compositing the sample and a 4' smear zone sample already approved.

Like many projects, there is a disconnect between the work plan and the reality of the field. A review of the blow counts from previous investigations would clearly indicate that a Shelby tube sampler would be crushed during sample collection. A volume calculation shows that a 2" and 3" diameter split spoon would only collect 0.6 and 2.0 liter sample respectively. The sand is so dense that a 3" diameter split spoon sampler typically has refusal at 12" +/- . If the typical scenario is played out, the driller will crush a Shelby

The next time you plan a field effort, work backwards. What are the volume requirements for the analytical methods and what are my sampler options given the soil conditions? Also, do I need duplicate samples or geotechnical samples? By answering these questions ahead of time, we can minimize field delays and give our cell phones a well-deserved rest!

### SOIL SAMPLING GUIDE

#### Sampling Tool Volumes

Sampling Tool	Inside Diameter		Length		Volume	
	(in.)	(cm.)	(in.)	(cm.)	(cu. in.)	(cu. cm.)
2" OD split-spoon sampler	1.44	3.66	24.0	61.0	39.1	640.5
3" OD split-spoon sampler	2.56	6.50	24.0	61.0	123.5	2024.3
3" by 30" diameter Shelby tube sampler	3.00	7.62	30.0	76.2	212.1	3475.0
Macro Core sampler	1.69	4.29	24.0	61.0	53.8	882.2
Large Bore sampler	1.13	2.87	24.0	61.0	24.1	394.4

A different CNYAPG sponsor's ad will be posted in each issue of the Technologist. In addition to monthly participation in the Technologist, CNYAPG prepares a September, December, and April newsletter for its members. For more information regarding CNYAPG, please contact Bill Morrow, President (315.437.1429, [wmorrow@pwinc.com](mailto:wmorrow@pwinc.com)) or Lynette Mokry, Secretary (315.446.9120, [LM@BBL-INC.COM](mailto:LM@BBL-INC.COM)).

### Volume Requirements

Sample Parameters	Recommended Container <sup>1</sup>		Sample Volume Required	
	Volume (oz.)	Type	(cu. in.)	(cu. cm.)
Volatile organic compounds	4.0	CWM <sup>2</sup>	7.2	118.3
Semi-volatile organic compounds	16.0	CWM	28.9	473.2
Metals	8.0	CWM	14.4	236.6
TCLP Extraction	84.5	CWM	152.6	2500.0
PCBs	8.0	CWM	14.4	236.6

Notes:

<sup>1</sup> From Environmental Sampling Guide, Eagle Picher, 1992

<sup>2</sup> Clear wide mouth

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