

Island Rock Hounds, Inc.

ROCK BOTTOM FACTS

April 2016

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Bellmore Memorial Library
 2288 Bedford Avenue
 Bellmore, NY 11710

President's Message

Hello Fellow Rock Hounds!

A big THANKS to all that helped this year at our show.

The few that did volunteer did a wonderful job! (See page 2 for the listing of volunteers). Mary has been busy tallying the results of our efforts.

Mary will have a full report for us at the next meeting.

The next meeting we are having a guest speaker, Bill Devlin.

I met Bill while on a field trip in Canada last year while attending the New York Stage Geological Association meeting that was held in Plattsburgh. He is traveling from out of state to speak to us and I hope everyone will plan on attending!

Also, do not forget to bring any auction items in for our Annual Emilia Gangi Auction next month. Also, put money aside for the event!

I hope to see you all this Wednesday, April 13th. We are now meeting in the room on the main floor.

Cheryl Neary
 President, Island Rockhounds

Inside This Issue

Upcoming Events.....	Page 2
Field Trips / Birthday Wishes / Dues.....	Page 2
Between a Rock & a Hard Place.....	Page 3
On The Road Again	Page 4

2016 UPCOMING EVENTS

May 14-15

Celinka Show
Our Lady of Mount Carmel
Patchogue, New York

July 30th -31st

Long Island Mineral & Geology Society Show
Cutchogue East Elementary School
Cutchogue, New York

For Other Gem & Mineral shows visit: www.amfed.org/EFMLS/calendar.htm

Upcoming Field trips:

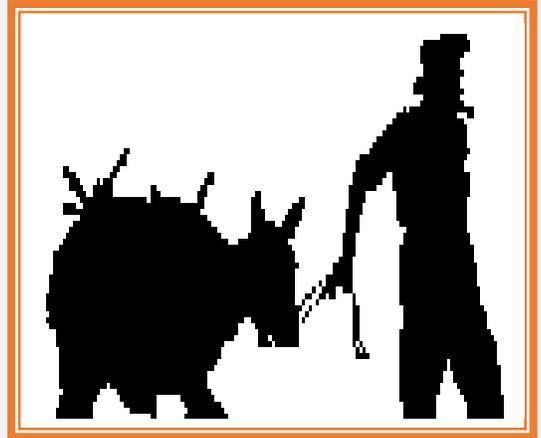
July 15-17: Herkimer Field trip and Show *hosted by LIMAGS*

August 13th –*Springfield Bus Trip hosted by LIMAGS*

Note change of dates

*Michigan Saturday 08/06/16- Field collecting for
Lake Superior agates and copper minerals,
I will need a commitment for the rooms this month!*

Anyone with any ideas for future trips, please see
Roberta Besso or Cheryl Neary



**Happy Birthday
to our
April
Babe!**

Johanna Kramer

Thank You for Volunteering for or at the Show!

Daviera Banks
Roberta & Marty Besso
Sue & Sarah Boyle
Elaine & Ron Casani
Jennie Cascio
Nancy Colburn
Mary Haugh
Joan & Joe Keegan
Janice Kowalski
Michael Nedbalak
Pat O'Rourke
Isabel Walordy
Nancy Walordy
Elfriede & Walter Schoendorf
Beth Zakar
Janet Zenk

If Tom Gangi was not hospitalized he too would have been there!
John Garceau drove from Pennsylvania to show support as well !

BETWEEN A ROCK & A HARD PLACE:

A SYNOPSIS OF MARCH'S MEETING:

Switch – Discover the Future of Energy – DVD Presentation

The hour and a half presentation was very informative as Dr. Scott Tinker exposed us all to the world's leading sites for all energy types, coal to solar, oil to bio-fuels. What will it really take, to go from the energy that built our world, to the energy that will shape our future?

As I stated at the meeting, Janet's nephew is personal friends with Scott Tinker. Scott W. Tinker is a geologist and energy researcher who runs the Bureau of Economic Geology – a unit of the University of Texas at Austin and is a professor at the Jackson School of Geosciences. Janet has informed us that this summer Dr. Tinker will be in Pennsylvania leading a field trip, if anyone is interested in possibly joining them. More information to come.

Special Presentation: April 13th Meeting:

Where the Deer and the Jackalope Play: Rocks of the Rock Springs Uplift, Wyoming

For over 20 years, hundreds of industry geoscientists have been trained in the basics of building a stratigraphic framework based on outcrop and subsurface data from the Rock Springs Uplift of southwest Wyoming. This area provides an ideal field laboratory for teaching stratigraphy because of excellent exposures, subsurface ties to well log and seismic data adjacent to the uplift, and nearby extraction of oil, gas, and coal from the same strata exposed along the uplift. A brief explanation of stratigraphic methodology will be presented, followed by a demonstration of its application to the Rock Springs outcrops, and concluding with a discussion of how the techniques presented are used on a daily basis in exploration and production. The core of this presentation was published in 2015 and received the Best Paper Award from the Rocky Mountain Association of Geologists.

Bill Devlin received a B.A. in Geology from Queens College of the City University of New York, and a M.A. and Ph.D. in Geology from Columbia University. Bill was hired by Exxon Production Research Co. in 1985, and for the next 27 years worked exploration, development and production assignments in the company's attempt to find a position he screwed up the least in. Bill is currently Chief Scientist for Rock Bottom Geological Research.

AS A REMINDER:

Please wear your IRH badge at the meetings! We have new members and it would help everyone with matching the names with the faces! Also, as an incentive, if you wear our badge you will be eligible for an additional chance to win the monthly raffle.

If you misplaced your badge, the cost of the replacement badge is \$1.00. Please speak to Janet Zenk (Membership).

Cheryl Neary

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On the Road Again-

I will try to tie together the following information for you – and you have a glimpse as how my mind works – when it does!

To begin with, last week I was in North Carolina for four days. I was helping the Catawba Valley Gem & Mineral Club with their show. Their show is three days, Friday being basically for school groups. This year, a “mine” was re-opened in Hiddenite, NC. A trip was planned for the Monday after the show so I was able to participate in the hunt for emeralds, smoky quartz, tourmaline, garnets and hiddenite. I had a really enjoyable time and was basking in the 75+ degree weather while back on Long Island the high was in the low 30s. I did find the quartz and tourmaline, but no emeralds or hiddenite- no surprise!

This month we are honored to have Bill Devlin speak to us about the Rocks Spring Uplift in Wyoming. This will be a very informative lecture. I thought I should expose you to some information about Rocks Spring Uplift, which I will in a minute.

Lastly I would like to remind everyone about our interesting DVD presentation last month – especially speaking in reference to electric cars and batteries.

So what does North Carolina, this month’s lecture and last month’s presentation have in common? Read on.....

The Rocks Spring Uplift is an area of uplifted Cretaceous to Eocene rocks in Wyoming as a result of the Larmaide orogeny, which spanned over 30 million years. The structure is a north-south trending anticline which covers an area of approximately 56 miles.

The Cretaceous Rock Springs formation is one of the most significant formations of the Rock Springs uplift. Mainly composed of erosion-resistant white-to-brown sandstone, it makes steep cliffs all around the central part of the uplift (Baxter basin); beds of grayish shale and brown claystone, softer, interrupt the cliffs with gentler slopes.

Starting in Late Jurassic time, the region was part of the Western Interior Basin or Seaway. This was a wide sea which lied on present central North America and at times connected the Arctic Ocean to the Gulf of Mexico.

During the same time, the Sevier orogeny created the fold and thrust basin in eastern Idaho and western Wyoming known as the Greater Green River Basin. You may remember Tom Caggiano of Lost World Fossils speaking to us about the fossils found in the Green River Formation? At many rock and gem shows you see for sale the fish from this formation.

The Sevier orogeny is thought to have ended at ~50Ma (early Eocene). Meanwhile, as the Farallon slab migrated eastward beneath the North American plate, a new orogeny, the Laramide orogeny had begun in Late Cretaceous time in central Wyoming, east of the fold-and-thrust belt, creating basement uplifts (e.g. the Wind River Range), arches (the Rock

Springs uplift) and basins (e.g. the Green River basin and the Great Divide basin). The West Interior Basin was then cut off in many separate basins; the Green River basin was one of them and was occupied by a vast lake, Lake Gosiute, where lacustrine sediments were deposited.

In 2013, while University of Wyoming researchers were studying the idea of storing carbon dioxide underground in the Rocks Spring Uplift in southwest Wyoming lithium was found in underground brine. It was estimated the located deposit at roughly 228,000 tons in a 25-square mile area

The production of lithium from brines requires soda ash (sodium carbonate). The Rock Spring Uplift Carbon Dioxide (CO₂) storage site is located within 20-30 miles of the world's largest industrial soda ash supplies. Also, magnesium must be removed from brines before they can be used for lithium recovery. The Rock Springs Uplift reservoirs contain much less magnesium than brines at existing lithium mining operations.

In 1955 Geological Survey Bulletin 1027-G was published: Lithium Resources of North America by James J. Norton and Dorothy McKenney Schlegel. At the time of the writing, the largest reserves were in the tin-spodumene belt of the Carolinas, which was first developed during WWII. Prior to WWI, South Dakota was the chief source of lithium minerals. Other states with lithium deposits included California, New Mexico, Colorado, Wyoming, Connecticut, Maine and Massachusetts.

The earth's crust contains about 0.006 percent lithium, with igneous rocks containing an average of 0.0065 percent lithium. Lithium content of sea water is 0.1 part per million, with approximately 97% of the lithium found in clays. Most of the lithium minerals occur in pegmatites, which are spodumene, amblygonite and lepidolite. Nearly all the lithium pegmatites are intrusive into metamorphic rocks.

Spodumene is usually white to light gray, but gem varieties are green (hiddenite) or lilac-colored (kunzite).

Okay- do you see what tied in the field trip, the DVD presentation and this month's lecture? If you guess Lithium you are correct!

The Pegmatite deposits containing the above mentioned minerals were the chief sources of lithium until production of lithium was began at Searles Lake in California, where Lithium was in solution in brine and extracted from evaporate beds. The brines were the most important commercial non-pegmatite deposits of Lithium.

Lithium (Li) is the third element of the periodic table, the lightest of all metals

Currently, 80% of Lithium is imported by the US. Lithium can be recycled form old batteries, as well. Lithium is used today in products such as phones, batteries and cars. It was and is also used in glass making (lepidolite); effervescing lithia tablets; ceramics; in greases and pharmaceutical uses.



Above- picture of Rocks Spring Uplift with slopes gently dipping to the west
Below- Lithium - found in the Rocks Spring Uplift

