Wayne County Gem and Mineral Club News

August, 2019 **Always Looking for Places to Dig!**

Red Sky at night, sailor's delight,
Red Sand by day, geologist's delight. (see pg. 4)

http://www.wcgmc.org

FACEBOOK link

Teresa found these tourmalines on our trip to Maine. More pictures from our 5-day trip on page 6

The annual PICNIC

Saturday, August 17th

When: 10:00 AM til mid-afternoon. We will plan to eat between noon and 1:00 PM. There will be a full "slate" of activities before and after the feast.

Where: The Weiler's Barn and Club Workshop 6676 E. Port Bay Rd, Wolcott, NY

Food: The club will provide chicken, potatoes and drinks. Bring a side dish or dessert to share.

Other: Bring an outdoor chair. Come prepared to have fun!

Workshop: Yes, the workshop will be open. Bring rocks to show, share, cut or polish.

If you have yet to sign up for the picnic, **PLEASE send a quick note to Fred Haynes (**fredmhaynes55@gmail.com) **with an RSVP and a head count.** We need to make sure we have enough chicken and potatoes for all.

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There will be no Friday night club meeting in August. The next meeting in Newark will be ***Friday the 13th in September****.*

Membership Renewal Offer

At GemFest we offered an incentive for new members to join at a discount by paying through Sept. 2020 and eight families elected to join our growing family. We have a similar offer for current members who wish to renew.

The club's current membership year runs until September 30, 2019 and if you are a member your renewal is not due until then. However, if you opt to renew before, or at, the picnic (August 17th) then the fee for renewal will be reduced by $5. This means your renewal for 2019-2020 would be $10 for an individual and $15 for a family. That amounts to a 33% saving for an individual or a 25% saving for a family membership. What a great deal!

An objective in making this offer is to make life easier on our treasurer while also offering members a great deal. With almost 100 members
, chasing down folks between October and the end of the year is not fun for our treasurer. He needs an accurate count of members to pay our annual insurance premium which is based on membership.

You can renew by sending payment to:
WCGMC, Bill Lesniak
P.O. Box 4,
Newark, NY 14513
or by bringing payment to the picnic.

You can further help Bill out by printing and filling out the form from our webpage, noting clearly any updates/changes in address, e-mail or phone number.

President's Message

Linda Schmidtgall

It is picnic time! Yes, August does mean that the end of summer is approaching, days are getting shorter and it is back to school in a month. But, August is also time for WCGMC's major annual celebration. **This year our picnic is on August 17th**. Details are elsewhere in this newsletter, but I'd like to make sure our newest members are fully aware that this is the best place to meet other members while sharing a meal, the workshop, and other fun activities with fellow members. Remember the workshop will be open. Oh, and bring a box! There will be rocks to share.

Right now we have about 80 signed up to attend this year's picnic. If you have not yet put your name on the list but plan to attend, please send an e-mail to Fred Haynes (fredmhaynes55@gmail.com). We want to have enough chicken for everyone!

The first half of the collecting season has flown past. I'd like to thank Fred Haynes and James Keeler for leading our trips into New England. Fred organized five days of rock and mineral hunting in Vermont, New Hampshire and western Massachusetts in June and James organized five wonderful pegmatite visits in Maine just last week. You will see some of the finds from these trips at the picnic and I suspect you will read of them in upcoming newsletters.

I am ready for our August trip to Michigan and our September trip to Kentucky. If you cannot attend these longer trips, consider the fossil trip on August 24th. Green's Landing is a great site right in our own backyard. We have permission to visit this privately owned location once a year.

I hope everyone is having a great summer. Don't forget to look for rocks wherever you may go on your summer adventures. You never know when/where that special rock will suddenly appear in your path. On the way home from Maine, Fred stopped to scoop up sand along several New Hampshire, Vermont, and eastern New York streams *(I think he just may have gone over the deep end)*. But, at one spot, we encountered a metaconglomerate boulder with very colorful clasts. My pieces look great as they are, but I anticipate they will look even better once slabbed and polished.

Here is Fred's share of the metaconglomerate from our trip. This is actually from a stream in Hoosick, NY just a couple miles from the border with Vermont. The pieces are wet in this picture.

If you had a special encounter with a rock, mineral, or fossil this summer, bring it to the picnic and tell us about it. Better yet, write up a little story and pass it to our editor. Fred is always looking for rock hounding news from our members.

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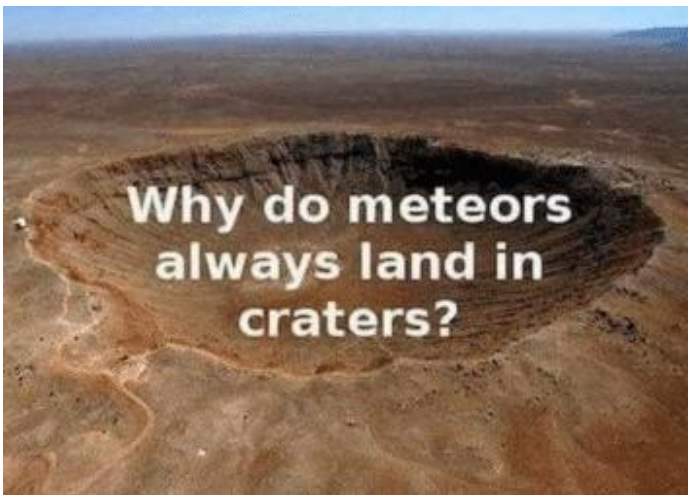
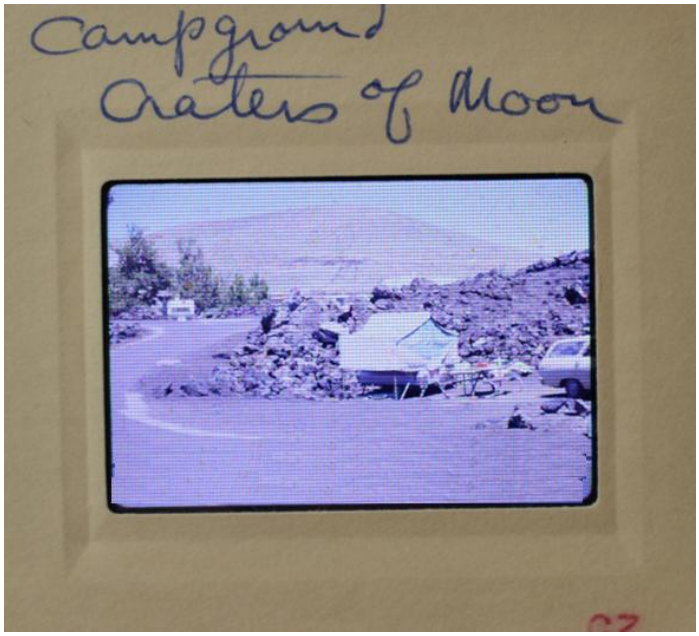
DOES ANYONE KNOW?



Mineral Musing
By Fred Haynes

It was July 20, 1969. I was 14 years old and visiting/camping at Craters of the Moon National Monument in Idaho with my parents. When we entered the Visitor's Center a crowd was gathered around a small black and white television set that had been set up on top of the ranger's desk. The exhibit area across the hall was virtually empty. Everyone was watching two Americans (Neil Armstrong and Buzz Aldrin) conducting experiments and picking up rocks on the moon. The image was blurry on the 14" screen and I was too far away to see much of it, but my thoughts from the day remain intact a full 50 years later.

Later that evening the sky was clear and the moon was just a couple of days from being full. We lay in the campground staring skyward. It was probably not possible for a boy about to enter high school to comprehend the enormity of what was occurring on that desolate sphere of rock some 240,000 miles away. I don't think I fully comprehend the enormity even today.



This is a photograph of a Kodak slide my father took on July 20, 1969 of our campsite at Craters of the Moon. You can see our Apache pop-up tent trailer right in the lava field. I only wish my dad had wanted more people in his slides. He took over 20 pictures that day, but I am in none of them!

But to imagine that I was camping with my family in a park called "Craters of the Moon" on that very day. It was not planned that way (or so my dad says). We were on a 5-week summer trip visiting National Parks and Monuments and, as fate would have it, our travels simply had us in Idaho that day.

Of course, Craters of the Moon National Monument technically has nothing to do with the moon. The volcanic cinder cones, spatter cones, lava tubes and volcanic bombs there are products of eruptions that began about 15,000 years ago and ended, at least for now, just 2,000 years ago. But the morphology of the features and the general lack of vegetation in many areas led geologist Harold Stearns to name the region "Craters of the Moon" when the nearly 500,000 area National Monument was established in 1924.

Fifty years have passed since Armstrong proclaimed "One small step for man, one giant leap for mankind" and you can view moon rocks acquired on the Apollo 11 mission in museums. But this past month did mark a milestone which should not go unrecognized. Although five successful subsequent trips were made between 1969 and 1972, only twelve men have ever left footprints on the moon.

How many of you who are old enough to remember this day know where you were on July 20, 1969?

The United States Postal Service acknowledged the event, issuing two stamps on July 19th, 2019 which honor the First Manned Landing on the moon. One stamp features Armstrong's iconic photo of Aldrin in his spacesuit and on the moon. The second stamp marks the site of the landing, the Sea of Tranquility.

SITE OF THE MONTH

Hamlin State Beach by Fred Haynes

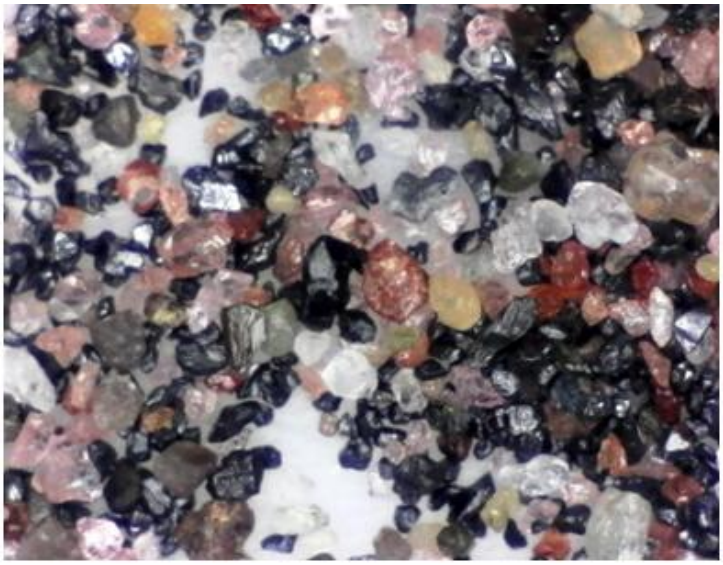
Last March, Jim Rienhardt brought his collection of some 270 sands to the club meeting and told us about arenophiles (sand collectors) (Reinhardt, 2018). Jim repeated his presentation at the Rochester Academy of Science later that month. At that meeting RAS member Paul Dudley brought along some sand he had collected from Hamlin State Beach some 50 years ago. Paul's sand was red, dominated by garnet, but full of other heavy minerals. He told us that the sand had been collected during a college field trip late in the spring when Lake Ontario first started to recede from winter highs.

I parked that in my memory and on my calendar and on July 8th set out to find some "garnet" sand for myself. I was not disappointed. The first stop I made was at Area #5 at the west end of Hamlin State Beach. The Lake level seemed to have dropped, perhaps a foot from its highest erosional cut. And in the bank left when lake level was highest was a 2-3 cm thick band of black and red sand. I sampled and took pictures and moved to other areas of the park.

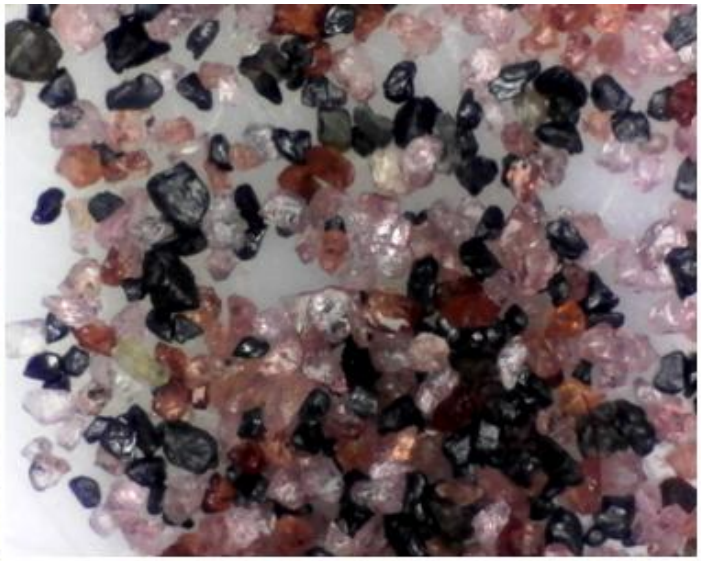
Most beach or river sand is quartz-rich with a feldspar component. These light colored minerals are the most common rock forming minerals that survive the processes of erosion. Quartz and feldspar have a similar density and tend to accumulate together when continually reworked by water. Heavier minerals (like garnet, magnetite or GOLD) that are weathered to sand size tend to separate from the lighter quartz and feldspar and it was layers of these heavier minerals that I was seeking.

The primary areas to the east and within the park seemed to lack heavy sand accumulations, but I really struck it "rich" when I stopped just east of the park. No, not gold, but at a small beach-like location adjacent to the Monroe County Water Authority property on Newco Road, I found a beach surface that was glittering with red sand (see photo on page 1). And, as at Area 5, I could find the source unit in the bank where the lake must have crested. This time the unit was at least 6 cm thick and I could use my sampling spoon to extract garnet-rich sand.

(continued on next page)



Beach sand from a heavy mineral layer at Area 5 in Hamlin State Beach. The pink grains are garnet. Many of the black grains are magnetite, but others are not magnetic. The grains with metallic luster are magnetite. There is also a wide diversity of other sand-sized mineral grains in this sand sample.



Garnet-rich sand from a location east of Hamlin State Beach off Newco Road. Much more garnet and much less diversity in this sand. None of the black minerals are magnetic. With dull luster, I suspect they are mostly hornblende. There is less diversity in the sand mineralogy in this sand and it appears to be better sorted than the sand to the left. Grain size is similar in both.

Both photographs taken with a zOrb 65x digital microscope. Sand is fine-grained (100-200 microns, 0.1–0.2 millimeters)

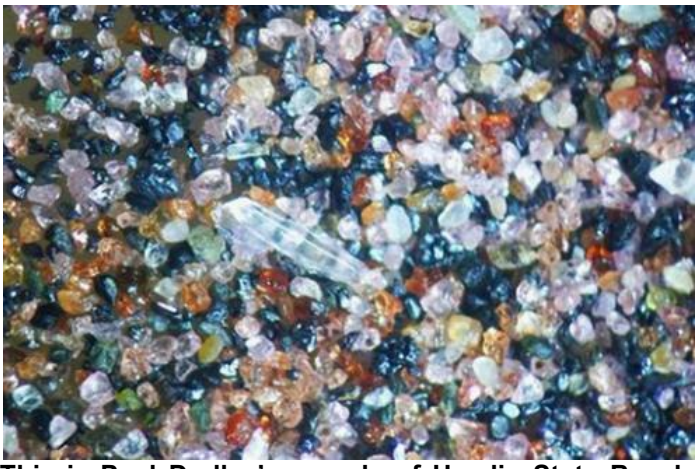
Although both sands contain a lot of garnet, there was a clear difference in the associated heavy minerals. A significant component of the sand from Area 5 was magnetite and the sand could be scooped out with a magnet just as easily as with the spoon. This was not true with sand from the Newco Road location. There were black minerals in that sand, but very few grains were magnetic. In fact, I had to search to find any magnetite in that sand.

You might be asking how did the garnet sand get concentrated into layers? Heavy minerals (almandine garnet has a specific gravity of 4.2 or approximately 60% denser than quartz), accumulate in low-energy environments where repeated washing strips lighter components. On a beach this typically occurs in the the "swash zone", where the surf washes across the beach face and loses energy. After sufficient time a lense of heavy mineral can deposit and if the water level then drops (as it finally is doing at Lake Ontario), the heavy minerals are stranded until such time as they are exposed by an even higher water level.

The recently washed surface depicted on page 1 from Newco Road shows this stranded washed surface covered with garnet and heavy black minerals. My picture does not do justice to how brilliantly red this surface was in the bright sunshine. It is interesting that the wave action not only separated these heavy minerals from the more common quartz along the beach, but it also separated the red almandine and the black minerals in streaks across the undisturbed surface.

An exposure of the heavy mineral sand units from Area 5 at Hamlin State Beach where they had been erosively exposed when the lake was higher in previous weeks. At this location, there is more magnetite than garnet. This is easily observed when a spoonfill of heavy black sand is placed on a magnet (see photo atop the next column). Can you see the reddish garnet beneath the magnetized magnetite? Trust me, it is there!

Magnetite garnet sand from Area 5 of Hamlin Beach resting on a round magnet



This is Paul Dudley's sample of Hamlin State Beach sand collected on April 3, 1968 and photographed through a binocular microscope on March 19th, 2019 at the RAS Mineral Group monthly meeting. The pink is garnet, the lustrous black is magetite and some of the other black is likely hornblende. But there is much more here. Paul Dudley tells me that his petrographic study of similar sands several decades ago indicated the presence of hornblende, tourmaline, zircon, rutile, hyperstene, apatite, epidote, staurolite and kyanite along with garnet and magnetite.

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OK, I may be hooked. Linda captured me sampling sand along a creek in central Vermont on our return from Maine. I did this about 10 times on our journey home!

Historic Tides in Atlantic Ocean

by Fred Haynes

The next time you visit a beach along the Atlantic Ocean, take a moment to watch the tides. You are witnessing geologic history in action. Simply put, right now, the Atlantic Ocean is resonant with the tide. Say what?

Davies (2019) explains resonance as it applies to tides. Since I cannot possibly do it better, I copy her explanation fully:

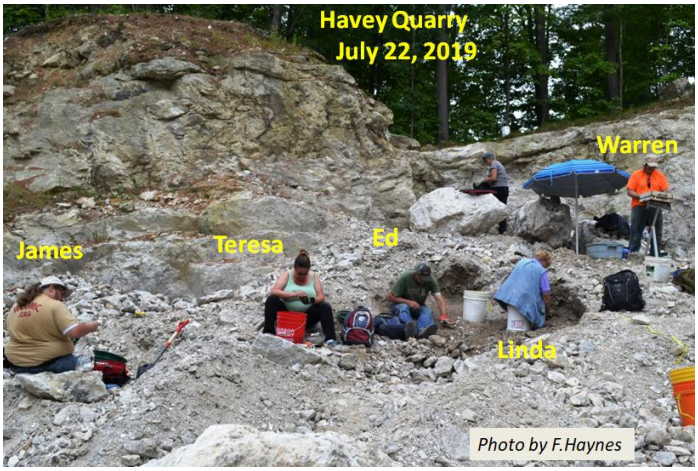
> *"To explain resonance, imagine the tidal wave moving across the Atlantic Ocean and back, like a child on a swing. If you apply the force on the swing when it is at the highest point, you are applying a force at one of the natural frequencies of the system, so the energy you input will make the swing go higher. If you push the swing before or after it reaches its peak, then you might input some energy, but it won't be as efficient. The Atlantic Ocean is just the right width to allow the wave to "swing" back and forth. The input of energy from the moon's gravitation pull and the Earth's centripetal force is applied at just the right point to allow resonance."*

Oceans grow and shrink as oceanic crust is created at mid-ocean ridges and consumed at subduction zone where the denser ocean crust sinks under lighter continental crust. Right now, the Pacific Ocean is shrinking with subduction occurring along virtually all of its margins and the Atlantic Ocean is expanding as new crust forms along the mid-Atlantic Ridge and none is being consumed at its margins.

Turns out the Atlantic Ocean reached the correct overall size to allow harmonic resonance of the semi-diurnal (twice daily) tides about 1 million years ago. Since then, tides along all its shorelines have been exaggerated. There is, however, ho hurry for you to visit a beach to observe this phenomena. Models of tectonic movement and tidal influence indicate this is likely to continue for another 20 million years before the Atlantic Basin grows too large to support resonance (Davies, 2019).

Davies, H., 2019, Beyond Tectonics: The present-day tides are the biggest they have been since the formation of Pangea, blogs.egu.eu, July 12, 2019

Here are a few scenes from our July trip to Maine. Words and stories about the five pegmatite sites we visited will follow in subsequent newsletters. We thank our hosts for these visits, in particular the Maine Mineralogical and Geological Society that invited us to join them on their Sunday dig.



Wayne County Gem and Mineral Club 2019 Schedule *last update July 28*

By the time many of you read this, the 11 day Upper Michigan collecting trip will have begun for several of us. We will be in the Marquette Iron District for 3 days and the Keweenaw Peninsula Copper Country for 6 days. It is too late to join that adventure, but we have another to Kentucky over Labor Day and are considering either an Adirondack or Ontario trip for late September or early October. WCGMC is always looking for places to dig.

July 31st to August 10th – Upper Michigan. Petoskey stones, iron minerals and copper minerals are in our immediate future. We thank Jim Hird for helping us with logistics.

August 17th – Club Picnic at the Weiler's (workshop location) --- Mark your calendars: this is a highlight of our summer season (see page 1). And don't forget to tell us how many are coming!

August 24th -- Green's Landing for fossils. Joint trip with RAS *(Contact Fred Haynes for details)*

August 30th – Sept 3rd - central Kentucky with CVGMC. We may add sites en route and during our return. Contact Fred Haynes to be included in updates for this trip

September (middle of month, tentative) – a long weekend in the western lowlands of the Adirondacks, and/or perhaps to Ontario?

October – Yes, we will go Herkimer Hunting again

If anyone would like to suggest a location or would like to plan/lead a trip let us know.

Our friends in St. Lawrence County will hold their August show for the 53rd Consecutive Year!!

August 24th & 25th
53rd St. Lawrence Co. Rock & Mineral Club Show @ The Pavilion – 90 Lincoln St., Canton, NY

Food concession stand is open both days. Mineral ID table. Free gem tree-making classes on Sunday. Children's fluorescent mineral hunt at dusk on Friday night, August 23rd. Free Mineral kits for children -- with labels Field Trips: ($5.00 per per-son). Powers on Sat. and Bush Farm on Sunday. Leaving @ 9:00 from the pavilion.

ST LAWRENCE CO. ROCK & MINERAL CLUB

Admission: Adults = $2.00
Children under 12 free

Bring your unknown minerals for our experts to identify.

For more information contact:
Club President: William deLorraine
315-287-4652, wdellie@gmail.com
Or visit:
stlawrencecountymineralclub.org

Spotted somewhere in northern Vermont: Paleozoic pick-up

Wayne County Gem & Mineral Contacts

ELECTED OFFICERS (NEWLY ELECTED)

President - Linda Schmidtgall
lees@tds.net 315-365-2448
Vice-President - Fred Haynes
fredmhaynes55@gmail.com 585-203-1733
Secretary - Debbie Breeze
debbiegb55@hotmail.com 585-289-6989
Treasurer - Bill Lesniak
Dirtman300@aol.com 315-483-8061

Board of Directors
Gary Thomas gfthomas956@gmail.com
Bob Linderbery bootmanblues@gmail.com
Heidi Morgenstern morgensternheidi@rocketmail.com
Holly Ann Woodworth autum14513@yahoo.com

Past President - Glenn Weiler gwexterior@gmail.com

Visit us on Facebook:
https://www.facebook.com/groups/1675855046010058/

APPOINTED POSITIONS

Bill Chapman – Field Trip Chair
batnpill@empacc.net 607-868-4649
Fred Haynes – Newsletter Editor
fredmhaynes55@gmail.com 585-203-1733

Bill Lesniak – Website Coordinator
Glenn Weiler – Workshop Coordinator
gwexterior@gmail.com 315-594-8478
Linda Schmidtgall – Collection Curator
Eric Elias: GEMFEST Show Chair
thecrystalnetwork@hotmail.com
Fred Haynes – Facebook Administrator

Club meets 2nd Friday of each month starting in Sept.
Social meeting at 6:30 PM Regular meeting at 7:00 PM
Park Presbyterian Church, Maple Court, Newark, NY
Website – http://www.wcgmc.org/

Dues are only $15 individual or $20 family for a full season of fun. Renewal is in October. Send to:
WCGMC, P.O. Box 4, Newark, NY

First Class: Dated, Meetings & Time Valued
The Public is always welcomed
WAYNE COUNTY GEM & MINERAL CLUB "ROCKS- OUR WORLD"
Wayne County Gem and Mineral Club
P.O. Box 4
Newark, New York 14513