JANUARY 2014

WHITTIER ROCKHOUNDER GEM & MINERAL SOCIETY

January 23, 2014
Rewa Okan: One of the largest rubellite tourmaline crystals ever found.

Christmas Time at the Ray Hoover monument near Brenda, Arizona.
That’s Sylvia, San-legged pups& Tony an

ROCKHOUNDER

THE PREZ SEZ:

Well, this is the start of a 2-year term and what an adventure it may just t
wondering what it is I would do as president, well, I would like to grow the club.

That is, bring in new members. WGMS has always been a good club; however, I'd lik
great club! That means new people, new blood, new ideas and the strength to do it. Perhaps the first step is fieldtrips.

We will have fieldtrips - going on them not just gets new material to cut, but more importantly, it creates memories and friendships. If you are wondering where we will be going and you're worried th
places‖, and you'd like to
of a few, come on to the planning meeting on the 18th of January at Jay and Kathy's h
the one time of the year you can tell me where to go and I promise not to get mad.

As the saying goes; —you ge
All of us can grow the club and the Whittier Gem & Mineral Society can become a great club.

Which way did they go? I

Joe Goetz

WGMS General Meeting

Thursday, January 23, 2014

ñ R e w a O k a n ò

The January meeting will feature a DVD about a 48 pound rubellite found in Agodi Nigeria - this is one of the largest rubellite tourmaline crystals ever found. Called Rewa Okan, the DVD follows the journey from viewing to rough to faceting the first gemstone from the piece.

Marcia

WGMS Board Meeting Scheduled
Thursday, January 16 at 7:30 PM
A t J a y & K a t h y V a l l
For directions, etc.
Call (626) 934-9764

2014 Field Trip Planning Meeting

There will be a Field Trip Planning meeting to determine the proposed field trips for 2014. All interested members of these or other clubs are invited to attend and participate in the planning.

Date: Saturday, January 18th 2013, 10AM

Place: The Valle residence
Address: 1421 Latchford Ave, Hacienda Heights, CA
Contact: Jay & Kathy at (626) 934-9764 for directions

RSVP to Joe Goetz at (626) 914-5030 or joenmar1@verizon.net.

Field Trip: Quartzsite

The field trip for January is to Quartzite. PowWow is on the 26, 27 of January. It is possible Chris Kite and Mark Nelson will lead a field trip. More information will be available at the January meeting.

Joe Goetz

Quartzsite Show List
2012 - 2013

Shows 2012-13

Oct 01 - Feb 28	**Hi Ali Swapmeet**
Nov 01 - Feb 28	**Prospectors Panorama**

Shows 2013

Jan 01 - Feb 28	**Desert Gardens -*Gem & Mineral***
Jan 04 - Jan 13	**Tyson Wells Rock & Gem Show**
Jan 07 - Jan 27	**Main Event**
Jan 18 - Jan 27	**Tyson Wells Sell-A-Rama**
Jan 19 - Jan 27	**Sports, Vacation & RV Show**
Jan 23 - Jan 27	**46th Annual Q I. A. POW WOW**
Feb 1 - Feb 10	**Tyson Wells Arts & Craft Fair**
Feb 2 - Feb 3	**Classic Car Show**
Feb TBA	**Blue Grass Festival at Tyson Wells**
Feb TBA	**Chili Cook-Off & State Salsa Championship**

Submitted by Tony Fender

Iron oxide concretions (Moqui marbles)

Moqui Marbles, hematite concretions, from the Navajo Sandstone of southeast Utah. Scale cube, with "W", is one centimeter square.

The Navajo Sandstone is also well known among rockhounds for its hundreds of thousands of iron oxide concretions. They are believed to represent an extension of Hopi Native American traditions regarding ancestor worship ("moqui" translates to "the dead" in the Hopi language). Informally, they are called "Moqui marbles" after the local proposed Moqui native American tribe. Thousands of these concretions weather out of outcrops of the Navajo Sandstone within south-central and southeastern Utah within an area extending from Zion National Park eastward to Arches and Canyonland national parks. They are quite abundant within Grand Staircase-Escalante National Monument. [4][5]

Interior of a Moqui Marble

The iron oxide concretions found in the Navajo Sandstone exhibit a wide variety of sizes and shapes. Their shape ranges from spheres to discs; buttons; spiked balls; cylindrical hollow pipe-like forms; and other odd shapes. Although many of these concretions are fused together like soap bubbles, many more also occur as isolated concretions, which range in diameter from the size of peas to baseballs. The surface of these spherical concretions can range from being very rough to quite smooth. Some of the concretions are grooved spheres with ridges around their circumference.[4][5]

The abundant concretions found in the Navajo Sandstone consist of sandstone cemented together by hematite (Fe_2O_3), and goethite (FeOOH). The iron forming these concretions came from the breakdown of iron-bearing silicate minerals by weathering to form iron oxide coatings on other grains. During later diagenesis of the Navajo Sandstone while deeply buried, reducing fluids, likely hydrocarbons, dissolved these coatings. When the reducing fluids containing dissolved iron mixed with oxidizing groundwater, they and the dissolved iron were oxidized. This caused the iron to precipitate out as hematite and goethite to form the innumerable concretions found in the Navajo Sandstone. Evidence suggests that microbial metabolism may have contributed to the formation of some of these concretions.[15] These concretions are regarded as terrestrial analogues of the hematite spherules, called alternately Martian "blueberries" or more technically Martian spherules, which the Opportunity rover found at Meridiani Planum on Mars.[4][5]

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http://en.wikipedia.org/

THE CALIFORNIA FEDERATION OF MINERALOGICAL SOCIETIES, INC.

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Dangerous Geology: Who Put the Quick in Quicksand?

by Andrew A. Sicree, PH. D.
Nittany Mineralogical Society Bulletin, Jan 2009

Can Quicksands Kill?

In the final scene of many an old time movie, the bad guy met his end slowly sinking into quicksand along the bank of a jungle stream. After a minute or two, nothing remained of the villain but his hat, floating on the now placid surface of the quicksand. Quicksand makes for Hollywood classics, but does it make scientific sense that a quicksand could kill a man?

The "quick" in quicksand implies Saxons "l *cwic,* "living" to the use of the term quicksand is an apt name for a sand that moves and swallows up unfortunate bad guys.

Without a doubt, quicksands exist in many parts of the world. Reportedly, they are found in environments as disparate as Morecambe Bay, England; coastal regions of New Jersey, North Carolina, and Florida; the Lençois Marahenses of Maranhão, in northeast Brazil; in the Sahara Desert in the Qattara Depression in Egypt; and near Qom in Iran.

The critical question is whether or not one of these quicksands could entrap a man and suffocate or drown him. Experts point out that any mixture of sand and water would have a density greater than that of the human body; thus a human being should be able to float on top of a quicksand. This is, however, only part of the story.

Sand and Quicksand

Normal sand is mostly composed of well-rounded grains of quartz transported and sorted by the action of water and wind. Beach sands, for instance, are deposited by wave action and blowing winds, while wind alone forms desert sand dunes. How does a natural bed of sand become a Quicksand?

In a well-packed pile of quartz sand, gaps between the rounded sand grains make up about 25 to 30 percent of the total volume. These voids are filled with air or water. But not all sand grains are spherical, and elongate or irregular sand grains make loose packing possible. In loosely packed sand, voids make up between 30 and 70 percent of the volume. A loosely-packed sand is metastable –it looks firm, but readily collapses and compacts to a stable, more densely packed bed. Pressure, vibration, or upwelling water serves to

overcome the friction between grains and the sand re-sorts itself in a more stable configuration. Studying quicksands in recent years, scientists discovered that not all quicksands are identical.

Fluidized Beds

The classical explanation of quicksand is that it is a fluidized bed, the grains are partially supported by the pressure of the surrounding fluid. A flow of water upwelling through a bed of sand serves to create a quicksand because the water pressure is so great that the entire bed of sand behaves like a fluid. Anyone walking onto such a sand would rapidly sink down into the quicksand just as though they had walked into the surface of a pond.

Quicksands created by upwelling water occur in many places where there are natural springs. This can be along riverbanks, at the bases of alluvial fans (fan-shaped masses of sand and gravel carried down from the mountains by erosion), or on beaches exposed at low tide. The latter can be particularly treacherous because someone trapped in a beach quicksand might be drowned by the incoming tide before being freed.

Civil engineers must be aware of the potential for quicksand conditions when constructing dams, and bridges because upwelling waters can fluidize any soil (not only sands) and cause catastrophic failures of structures built on them. You would never, of course, construct a building on a quicksand deliberately, but a soil or sand that appears firm today might, after a few years of construction, become fluidized. At that point, some stimulus such as a minor earthquake tremor might cause the underlying sediments to liquefy and undermine the foundations of your building.

The Destruction of Port Royal

In the 1600's the town of Port Royal was a haven for pirates, buccaneers, cutthroats, slave traders, and prostitutes. Port Royal sat perched upon a spit of sand on the edge of the Caribbean Sea near Kingston, Jamaica. An earthquake struck on June 7th, 1692 at 11:43 a.m. (we know the exact time from a watch that was recovered from the rubble). Most of the buildings did not collapse, they simply *sank* into the sand, and about 3,000 people, half of the city's residents, perished. Survivors claimed the wrath of God had come up. Survivors claimed the wrath of God had come down on the city in many ways. Certainly it must have seemed that way to those lucky enough to live

(Continued on page 12)

Dangerous Geology

(Continued from page 11)

though the disaster.

The 1692 earthquake served as the stimulus for the liquefaction of the sand upon which the town was built. Normally, at Port Royal the water table was only a few feet below the surface. Perhaps the spring of 1692 was wetter than usual and the water table had risen. The shaking of the ground during the earthquake caused the sand to becom swallowed whole streets of buildings. At the same time, the ground surface dropped downward (due to compaction and seaward slumping) and most of the town was submerged. Tsunamis that hit the town after the earthquake did nothing to improve the situation. Today, the town lies at least 25 feet (8 m) below average sea level.

The Semi-Rigid Trap

Quicksands are common in the Lençois Marahenses of Maranhão, in northeast Brazil. Here, sand dunes intermingle with rainwater-filled lagoons. As these lagoons dry up, a soft crust of brown or green algae and cyanobacteria remains, covering pits of water-saturated quicksand. People who have stood on the crust of these quicksands liken the experience to standing on a waterbed. As long as the crust remains intact, the quicksand bed quivers and vibrates underfoot. If you break through the crust (whic bottom of the sand pit. Upon being much firmer sand in which the shear strength increases with depth. In other words, the deeper your legs are stuck in the sand, the harder it gets to pull them out. Most of these pits are only ab present an immediate threat to life, but it can be challenging to extricate oneself from them. By laying sheets of plywood on the surface, researchers found they were able to walk across these pits without perturbing the quicksands.

In other parts of the world, such as Iran and Egypt, salt rather than bacteria and algae appears to play a role in holding the quicksand in a metastable condition.

These semi-rigid trap-type quicksands differ from the fluidized bed-type of quicksand in two important ways. First, the semi-rigid traps have stationary water –there is no continuous up flow of spring water. Second, the semirigid raps change drastically after they have been disturbed: they switch from a fluid state to an almost solid state.

Death of the Bad Guy

While it is true that you should be able to float on (and presumably swim out of) a fluidized bed-type of quicksand, the semi-rigid trap-type quicksands present a different challenge. When you walk onto one of these quicksands, you rapidly sink into the sand. Upon being disturbed, the morass changes from a quicksand to a tightly compacted, almost solid, mass, effectively —cementing‖ you in place. The force compacted sand can be much greater than that which a single man can exert. If you don't have friends nearby with slowly wiggle about and dig to free your legs. If you have the misfortune to fall into a quicksand that is deeper than your height, you might not live to write home about the experience.

The Agatizer 10/13

Heat Treating Rocks

You have just cut a slab from some agate rough and are disappointed with the color. The overall color is a washed out white. At this point, most rockhounds would toss both the slab and the rough into their spouse's rock garden and write off the investment in the piece.

There may be life yet in that nondescript piece of rough. Before consigning it to the rock garden, try heat treating petrified wood, agate, jasper, and many other types of rocks. Almost any rock can benefit from the process. A recent example was a piece of dull brown agate. After heat treating, it became a deep red. How, you ask does one go about heat treating a piece of rock? The process is fairly simple, but is a trial and error process. The slab should be immersed in a small pan of sand and placed in a range oven (NOT in a microwave). Turn the temperature to warm, about 200° for about one hour to expel any moisture trapped in the stone. Then raise the temperature 25° every half hour until the temperature is up to 350°. Leave it at this setting for two hours. Turn off the oven and allow the rock to come to room temperature without opening the door.

Now you can check the results. If you are satisfied, you can slab the rough and heat treat the lot. If not, return the slab to the oven and repeat the process. You can skip the time at 200° since all the moisture has already been baked out by now. Raise the temp. to 400° this time. Continue raising the temp. by 50° until the results you want are reached. Most ovens will go up to 500°. If you need to go higher, some special oven will be required.

Source: Gems of the Rogue—March 2012 via Deming Rock Chip 2/13

Upcoming CFMS Gem Shows

Feb 15-24 **INDIO, CA.** San Gorgonio Mineral & Gem Society
Riverside County Fair & National Date Festival
46350 Arabia Street
Hours: 10 - 10 daily
Email: bert67@verizon.net

Mar 1-2 **ARCADIA, CA.** Monrovia Rockhounds
Los Angeles Arboretum & Botanic Gardens
301 Baldwin Avenue
Hours: 9:00 - 4:30 daily
Website: www.Moroks.com

Mar 1-2 **VENTURA, CA.** Ventura Gem & Mineral Society
Ventura County Fairgrounds, 10 W. Harbor Blvd.
Hours: Sat 10 - 5; Sun 10 - 4
Website: www.vgms.org

Mar 8-9 **SAN MARINO, CA.** Pasadena Lapidary Society
San Marino Masonic Center, 3130 Huntington Drive
Hours: Sat 10 - 6, Sun 10 - 5

Mar 29-30 **TORRANCE, CA.** South Bay Lapidary & Mineral Society
Ken Miller Recreation Center
3341 Torrance Blvd (entrance on Madrona Ave)
Hours: Sat. 10 - 5; Sun. 10 - 4
Website: www.palosverdes.com/sblap

Apr 26-27 **THOUSAND OAKS, CA,** Conejo Gem & Mineral Club
Borchard Park Community Center
190 Reino Road (at Borchard Rd.)
Hours: 10 - 5 daily
Website: www.cgamc.org

May 2-4 **BISHOP, CA.** Lone Pine Gem & Mineral Society
Bishop Fairgrounds, Sierra Street & Fair Drive
Hours: Fri 5 - 10; Sat 9 - 7; Sun 10 - 3

May 3-4 **YUCAIPA, CA,** Yucaipa Valley Gem & Mineral Society
Scherer Senior Center, 12202 First Street
Hours: Sat 10 - 6, Sun. 10 - 4
Website: www.yvgms.org/wiki

WGMS MEETING LOCATION!
Whittier Community Center
7630 Washington Ave. Whittier

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