

NEWSLETTER No. 4, June 2006

Dear SSEF Alumni members and friends

I would like to thank each and everyone of you who has been attending our events with much enthusiasm and interest. As you know, without your support and feedback we would not be growing as we are. We now have over 190 members!!! Of course, we cannot expect everyone to come to all the events we are organising as many of you live in other countries, states or cities which are not exactly "around the corner". I am asking you to please help us to grow by telling other people, friends as well as customers, about us and our organisation and inform them about the events we are holding and about the services that the SSEF is providing.

Our last event was a great success, the room was full with a captivated audience and the presentation triggered many interesting discussions and questions. Dinner was wonderful (as always) and offered a great opportunity to exchange information and to get to know each other a little better.

The next event which will be held on Monday, 19th June, will certainly prove to be a memorable and informative evening as Professor Henry Hänni will be lecturing about pearls. The location is the same as always, but, this time it will be held in the larger room which is on the 1st floor.

I am looking forward to welcoming you there and I am hoping to see many new faces.

There is an entry fee of CHF 10.- just to cover rental costs. Please remember to send me an email confirming your attendance as soon as possible, or at the latest by 12th June.

Leon Ascot

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SSEF Alumni Events:

4th SSEF Alumni Gem Lecture

How to produce a Cultured Pearl: Visit to a Pearl Farm in Bali (Indonesia)



by Prof. Henry A. Hänni,
Director of SSEF Swiss Gemmological Institute

Monday 19th June, at 7 pm, Restaurant Falcone in Zurich (10.- SFr. entry fee)

Some weeks ago, Prof. Hänni has visited a pearl farm in Bali (Indonesia).

In this lecture, he first will give an overview about pearl cultivation worldwide and then take you on a journey to Bali, and give you first-hand information on how pearls are cultivated nowadays with up-to-date farming technology.

The farm in North-Bali is responsible for the cultivation and growth of the South Sea pearl oyster (*Pinctada Maxima*). The actual cultured pearl production is done in Papua-New Guinea.

Please contact Leon Ascot at info@ssef-alumni.org if you are interested to participate at this lecture. The location is again at the Restaurant Falcone, Birmensdorferstrasse 150, 8003 Zurich. After the lecture, we will enjoy a relaxing dinner together with Henry Hänni at the restaurant.



© H.A. Hänni, SSEF



© H.A. Hänni, SSEF



EuroGem at Saint Marie aux Mines (France)

Thursday 22 to Sunday 25 June, 2006

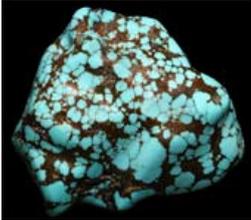
Ste Marie-aux-Mines is one of the largest mineral and gemstone shows (www.minerapole.com) in Europe. Apart from cut gemstones, many rocks and crystals and even fossils are offered in a very friendly and exciting market atmosphere in this small former mining town in the Vosges hills near Colmar (between Basel in Switzerland and Strassbourg in France).

Please contact Leon Ascot at info@ssef-alumni.org, when you are interested to visit the EuroGem Fair. Although we will not organise a trip to the fair, it is still possible to meet each other at the fair and even have a lunch together.



© Megan Foreman

SSEF Alumni Visit of the Special - Exhibition at Siber & Siber



From June 17th to July 2nd, Siber & Siber in Aathal (Switzerland) are presenting gems and rocks from China. Apart from cut stones, there are many fine mineral specimens and worked objects from China on display. Andreas Stucki, mineralogist at Siber & Siber and member of SSEF Alumni, will offer us a private Sightseeing-Tour through the Exhibition.

Please contact Leon Ascot at info@ssef-alumni.org as soon as possible if you are interested to participate at this exclusive visit. Participants will meet at 7 pm in front of the Siber & Siber Museum in Aathal (near Zurich). The date will be communicated as soon as possible.



SSEF Alumni Visit of the Grimsel Crystal Cavern in 2006

We will organise the same trip as last year to the Grimsel crystal cavern in 2006, if enough SSEF Alumni members are interested to participate. For an appetizer, check the contribution of Leon Ascot in the last newsletter No. 3.

So far the date is not fixed, but it will be in summer 2006. Please contact Leon Ascot at info@ssef-alumni.org, if you are interested to participate at the next Grimsel crystal cavern excursion.



© H.A. Hänni, SSEF



© Leon Ascot



© KWO Grimselstrom

Planned forthcoming SSEF Alumni Events:

The visit presented below is planned in 2006. However, for organising such an trip, **we need your help!** Please send us an e-mail (at info@ssef-alumni.org) and write us if you are at all interested in participating in such an excursion.
All details about dates and organisation of this event will be communicated when we know approximately who is interested to participate.

**SSEF Alumni Visit to
the Tiffany Exhibition in London**

From 24 June to 26 November 2006 the Gilbert Collection presents a landmark Jewellery Exhibition:



Bejewelled by Tiffany, 1837-1987 celebrates Tiffany's sustained pursuit of superb design and outstanding craftsmanship. Through the display of glittering jewels and luxurious objects, it will evoke the glamour that has beguiled Tiffany's clients for 150 years.

The most comprehensive exhibition of Tiffany jewellery ever mounted, *Bejewelled by Tiffany, 1837-1987*, will introduce Great Britain to the rich history of the jewellery of Tiffany & Co. Some 180 glittering pieces from the Tiffany Archive, together with a small selection of jewels loaned from private collections, will chronicle Tiffany's first 150 years. Many of these works have never before been on public display.

Now famous for its glamour, creative design and fine craftsmanship, Tiffany & Co. was founded in New York in 1837. Starting modestly as a 'Fancy Goods' store on Broadway, it quickly rose to international fame, its jewellery winning medals and stunning the world at the great international exhibitions of the 19th century. The exhibition will follow a broad chronological framework within which the pieces will be arranged thematically, highlighting particular designers, sources of inspiration or the materials favoured at different times during the 150 years covered.
(for more information, see also <http://www.gilbert-collection.org.uk/exhibitions/Tiffany/index.html>)

We are planning a trip to London for **October 2006** with the support of our english SSEF-Alumni members. Any member who is interested in this Exhibition, please send an e-mail as soon as possible to Leon Ascot (info@ssef-alumni.org). This e-mail is **not** for definitive registration, but rather to see the interest among SSEF Alumni members for such a visit.
All further details about this planned visit will be communicated to you in the next few weeks.

Gemmological Articles and Notes:



Tanzanite and other Zoisite Varieties

Michael S. Krzemnicki, SSEF Swiss Gemmological Institute

Introduction:

Zoisite, is a calcium-alumosilicate belonging to the epidot group, is named after Baron Zois von Edelstein, who first discovered zoisite specimens 1794 in Saualpe massif in Austria.

Zoisite crystals are orthorhombic and are commonly found in columnar crystals (elongated along the b-axis).



© John H. Betts



The Properties of Zoisite

Mohs' hardness:	6-7 (relatively soft)	
Spez. Gravity:	3.35 (+0.10, -0.25)	
RI:	1.691–1.700	
DR:	0.008–0.013	
Optical character:	double refractive, biaxial positive	
Lustre:	vitreous	
Cleavage:	perfect parallel {100}	
Colour:	zoisite	colourless, grey, greenish-brown (due to iron)
	Cr-zoisite	intense green (due to chromium)
	tanzanite	purplish blue (due to vanadium)
	thulite	pink translucent aggregates (due to manganese)
	"anyolite"	rock with a greenish zoisite groundmass containing dark amphiboles and rubies
Synthesis:	no tanzanite synthesis	
Imitations:	synthetic purplish blue corundum ("Coranite")	
	synthetic Cr-forsterite ("tanzanion")	

The Varieties of Zoisite

Zoisite is a metamorphic mineral, which is found usually as colourless to greyish or greenish columns and masses in metamorphic rocks. Zoisite is well known also in the Swiss Alps.

Intense green zoisite containing chromium is well known from Tanzania (Merelani). The colour of green zoisite from Pakistan (Shigar Valley, north of Skardu, Baltistan) is rather due to iron.

Thulite is a pink variety of zoisite containing manganese. It was first discovered 1812 in Norway. Generally, it is found in massive aggregates and rock layers. Nowadays, thulite is mined only in Lom and Leksvik anymore.

Tanzanite is the purplish blue variety of zoisite containing vanadium as colouring element. Tanzanite was first described 1966 from Merelani, near Arusha in Tanzania. Up to now, this remains the only locality, where tanzanite is found and mined.



Chromium zoisite from Merelani
© H.A. Hänni, SSEF



Thulite
© H.A. Hänni, SSEF

Tanzanite:

Tanzanite is the vanadium bearing purplish blue variety of zoisite. Tanzanite shows a very characteristic pleochroism. Untreated stones generally are trichroic with a yellowish colour component (vibrational direction), which results in a somehow greyish-brown apparent colour of these stones.

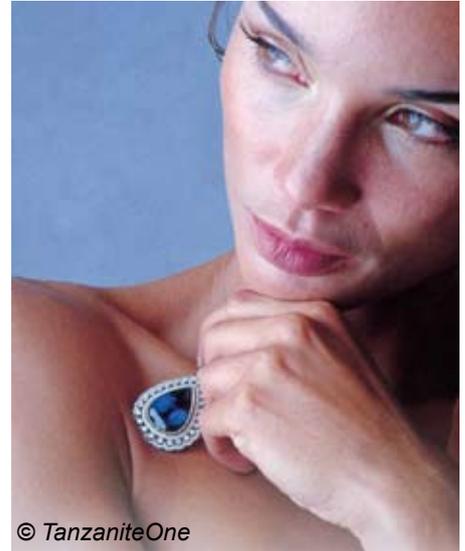


blue and purple pleochroism colours in a tanzanite
© GIA

After heating at about 500°C, the yellow colour disappears and straight dichroic blue and purple colours are seen when tested with a dichroscope. The heat treatment process can be detected by use of UV-VIS spectroscopy in a gemmological laboratory (see Traber 1995, Notari et al. 2001).

Generally, heat treated tanzanites are characterised by a transmission window in the ultraviolet in the range 310 – 350 nm. Unheated samples show distinct absorption in this spectral region.

Most tanzanites in the market are heat treated.



© TanzaniteOne

Concerning “handling” of tanzanites, it is important to note that these stones are quite easily cleaved. Ultrasonic cleaning is thus not recommended to avoid any cleavage.

Temperature shocks should also be avoided.

As tanzanite is quite soft, jewellery with tanzanites are best designed for safe and soft environments...



Tanzanite-Mining:

Tanzanite is only found and mined in the Merelani mine in Tanzania.

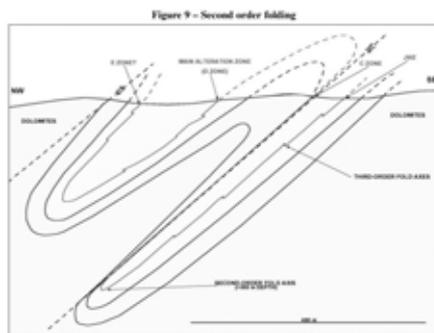
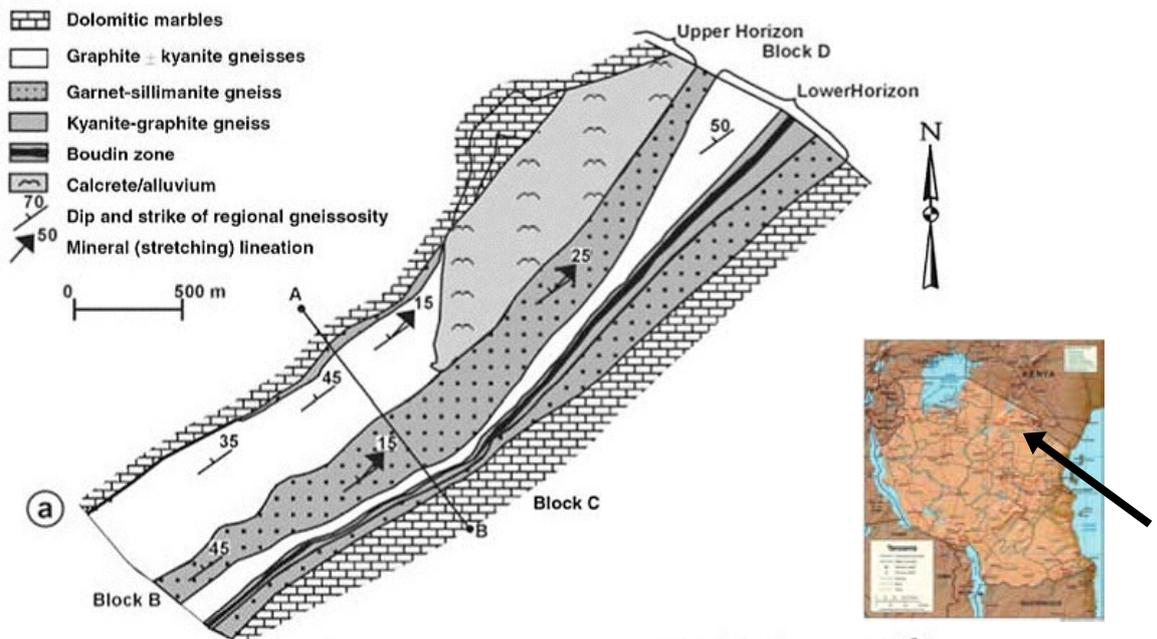


Mining operation at Merelani by TanzaniteOne Inc.
© TanzaniteOne

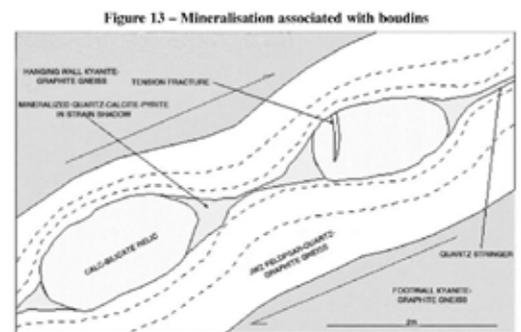
The Merelani area is located in the so-called Mozambique belt, which is formed by proterozoic, highly metamorphic rocks, which are found in a large zone crosscutting the African continent from North to South.

The tanzanites are found in a thin layer of boudins in a kyanite-graphite gneiss schist, which is folded in large dolomite marbles. As a consequence of the folding, the tanzanite bearing boudin-layer is found in four outcrops in close distance to each other. TanzaniteOne Inc., an international mining company is working with mechanised operations one of these

Local geological map showing the geological units of the mining area. © TanzaniteOne



© TanzaniteOne



© TanzaniteOne



mineralized zones, whereas the others are mined by local people.

The Marketing of Tanzanite:

The intense and attractive purplish blue colour has made tanzanite a very popular gemstone, especially in the United States. The name tanzanite was given by Tiffany & Co in the 60ies and is one of the rare cases, in which a company creates successfully the image and the "brand name" for a new gemstone variety.

Although, the Merelani mine will be exhausted in the future, there is still the possibility to find large specimens. In 2005, a crystal weighing 16'839 ct (more than 3 kilograms) was found by TanzaniteOne Inc. in their mining block C. The crystal (22 x 8 x 7 cm) was named "The Mawenzi" after the second highest peak of the Kilimanjaro volcano. This gives us the chance to dig out an even larger tanzanite, which will be named "Uhuru" after the highest peak of the Kilimanjaro...

Note:

This article is a summary of a presentation, given by Dr. Michael S. Krzemnicki during the last annual meeting of the Swiss Gemmological Society, in May 2006.

References:

Notari F., Boillat P.-Y., Grobon C. (2001), La tanzanite (β - zoïsite): Detection du traitement thermique, *Revue de gemmologie A.F.G.* No. 141/142, pp 34-36

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www.tanzaniteone.com/tanzaniteone-investor-aim.asp
download prospectus (pdf file)

Peter Bancroft (1984) *Tanzanite, Merelani Mine, Arusha*, reprint of a selection of Gem and Crystal Treasures, Western Enterprises/Mineralogical Record, Fallbrook, CA, 488 pp.
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Richard Hughes (1994), The Name Game. *Australian Gemmologist*, Vol. 18, No. 10, pp. 311-315



New Discovery in Sri Lanka – Green semi-translucent to opaque Opal

by Sonja I. Glaser FGA, SSEF Alumni member



Yes there was. I couldn't believe it, when one of the members of my former tourist tour told me, that the green agate she bought at the Rawana Falls near Ella in 2004 was actually opal. She took the rough piece to Switzerland and had it cut en cabochon. She very proudly showed me the result. I was very curious. But since it was the cutter who told her it was opal, I wanted to know.

In July 2005 I went up to the waterfall again. As soon as I left the van, I was offered various kinds of rough mineral pieces; yellow agate, green agate, rose quartz, milky quartz, calcite, bronze coloured mica, tourmalinated quartz. I went for the green opaque material, which did not show the typical banding of agate and was somehow lighter than the yellow material which had bands. The yellow material also seemed more vitreous than the green, which I had the feeling was more pearly. And it was different to the touch. There were vegetable bags full of it. I bought some material and had it cut in various cabochons. I took the gems to Switzerland and tested some at the Berufsschule in Zürich by taking the S.G. with the Mettler balance. Oh, yes, it was opal. I was so pleased. The R.I. also showed an opal reading of about 1.45.

There I was, suspecting that material was found somewhere near the waterfall. Ok, let's go again. So this January I visited Ella again. One of the stone sellers was of course ready to take me to the source when I offered him some money. He said it is very close to Wellawaya, the village just before the slope up to Ella starts. So we went down and about 7 km before Wellawaya, he said to stop the van. It was still hill country. Wellawaya



actually is flat and the beginning of the flat plain leading to Hambantota in the South. I left the van and we turned into a muddy path leading steeply downhill. "It is a short cut to Wellawaya", he told me. And very soon, I was stepping onto a sponge-like frog green material heavily soaked with water, which might be the original material before being covered with sediments, and eventually undergoing a further process, to turn into green opal. Further down I stepped onto the green translucent material. It was just lying on the muddy path which was about to be turned into a small road for the people living in the area. The green opaque material showed up, where the road was cut into the hill. Rock boulders are everywhere in the sediments of the jungle forest. He showed me the site from where he collects the material to sell at the waterfall. The material has a different appearance, dark green, apple green, yellow green, black green, with banding in yellow-reddish agate colours. The yellow material is also available and mica. I was taken to that mining site as well; it was very close to the street. One cannot actually say the materials are mined. I would rather say "collected", as they are very easy to access.





The dealers do not know what they are selling. they sell it as agate but it is green opaque/translucent opal from Sri Lanka as test results at Gwyn Green's place clearly show:

- Colour: apple green, dark green, blackish green, yellow green, sometimes banded or mottled (brown, red, ochre)
- R.I. 1.45 shadow on a cut cabochon on the flat base
- S.G. on a small piece using a Mettler balance for hydrostatic weighing and on a large piece using a gram scale and jug of water both gave SG values 2.00 (to 2 dec places.)
- Absorption: by transmission absorption of most of the green-blue, blue and violet, in dark green large piece, in a small piece far end of the blue, some absorption in the far red in both pieces

Some material is porous and small streams of bubbles rise from it when immersed in water. Some material is fragile, with stress cracks and during cutting it might break.



Mica is collected close to the area where the green opal is found. It is sold at the waterfall to tourists. The general terrain is shown in the photograph on the left. The photograph second left shows a large mica crystal found in the locality

The photographs to the right show some variation of the colours seen in the translucent opal. (all photos by S. Glaser FGA)

Note:

This is a reprint of the article published by Sonja Glaser in the Midlands Focus, 8th Issue, Spring 2006.



Scientific European Laserworkshop

Starting in 1994 this workshop has evolved from an informal meeting on laser ablation inductively coupled plasma mass spectrometry into an inter-continental meeting covering all topics relevant for laser ablation in elemental analysis. Nonetheless this meeting has ever since and shall continue to keep its workshop character as a base for an intense exchange of ideas between users and researchers of the techniques. It is thus open to everybody interested in laser ablation based analytical methods, fundamental and application oriented researchers, who want to present recent research highlights and applications but also to discuss problems and limitations that arise in this field.

Registration until 7. July 2006

For details, please check <http://www.laser2006.evento.ethz.ch/>

News from the library:

Search the Web....

Some useful websites just found on internet:

www.ruhr-uni-bochum.de/rubin/rbin1_03/pdf/beitrag3_geistes.pdf

Site in German about a research project about cultural history of diamonds

<http://www.tanzaniteone.com/tanzaniteone-investor-aim.asp>

On this site you can download a pdf prospectus, which gives you plenty of information about tanzanite mining in Merelani, Tanzania

<http://www.ruby-sapphire.com/home.htm>

Exciting site of Richard Hughes, a highly reputed gemmologist, gem traveller and writer. He is the author of the standard textbook "Ruby and Sapphire" and shares his personal views and experiences with a broad audience on this website.

<http://www.meteorite.ch/>

So many meteorites, so much information... just for a glimpse in outer space

<http://mars.jpl.nasa.gov/odyssey/gallery/video/movies/ThemisFlybyMusic.mpg>

...or what about a space shuttle ride into the great rift structure on Mars



SSEF Alumni News:**Promote your Business on the SSEF Alumni Website
(SSEF Alumni Benefit Program)**

We offer you a free-of-charge possibility to promote your services on the SSEF Alumni website. By participating, you agree to offer a reduction of at least 10% on all your services and products for other SSEF Alumni members.

Please send your business card together with a list of your services to the SSEF at gemlab@ssef.ch, or SSEF Swiss Gemmological Institute, Falknerstrasse 9, 4001 B asel, Switzerland, with the comment: SSEF Alumni Benefit. Our webmaster will upload regularly the promotion information on our website.

How to become a Member of SSEF Alumni ?

The SSEF Alumni Organisation is open for former participants of courses at SSEF Swiss Gemmological Institute, FGA students, and further interested persons in the gemmological community.

The SSEF Alumni is intended as a platform for the exchange of information and for continuous gemmological formation. Membership fee is 50 Swiss Francs per year. Please see our website for more information (www.ssef-alumni.org) or contact our President, Leon Ascot at info@ssef-alumni.org, when you would like to participate at exclusive SSEF Alumni events and to receive the highly informative electronic newsletter four times a year.

Impressum:

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You are invited to contribute to the newsletter with short articles of interest for other SSEF Alumni members. All contributions should be sent to Dr. Michael S. Krzemnicki gemlab@ssef.ch and will be published after editing if appropriate for this newsletter.