



The S A Gem and Mineral Club

Associated Member of **FOSAGAMS**
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NEWSLETTER - SEPTEMBER 2013

LAST CLUB MEETING on the 29th August 2013 at the St George's Hospital Training Centre. It was rather chaotic as the facility was in the throes of being re-structured. We had received only a couple of weeks' notice that the facility was being withdrawn after the August meeting. After the chairman had greeted everyone, he advised that members would be informed in the newsletter of a new venue. There was a possibility in the pipeline, namely the conference room at the St Saviour's Anglican Church in Walmer, of which both the Towers and the Scotneys were members. The committee was in the process of investigating this possibility and would report to the members in due course, but certainly before the next meeting, scheduled for the 26th September.

Only 11 members attended, but this made for a nice intimate evening. Two ladies (artists) whom Fiona knew also came along as visitors, but left half-way through the meeting

Colin and Derek reported on a presentation which they had made at the Kruger Gardens retirement village recreational facility. Around 30 residents had attended. Derek spoke about his interest in gemstones, and told some interesting stories about his experiences and facts about various geological phenomena. Colin gave an illustrated talk on how to make a cabochon. There were lots of questions from the audience and, although no-one came rushing along to join the club, it was felt to be a very worthwhile exercise.

The two gentlemen also reported on an initiative which is being investigated with the Raymond Mhlaba Skills Training Centre in Conyngham Road, where unemployed young people are taught various useful skills such as hairdressing, catering, woodwork, etc, to enable them to generate income. The principal of the Centre was interested in the idea of offering training in gem-cutting, specifically cabochons. Derek and Colin had a chat with her and the College is looking into making a room available in the woodwork department. It is proposed that the club can assist by training a couple of staff or students to be able to teach students the basics of gem-cutting — to facilitate the facilitators. We do not want to get too heavily involved in this initiative on a day-to-day basis, but it could provide a fertile ground for younger members. The only young people we currently have in the Club are Warren and Matthew who usually come to the workshop on a Saturday afternoon and participate enthusiastically in making cabs.

For this final meeting at St George's, two of the videos belonging to the NMMU were shown, one on Metamorphic Rocks and the other on Geological Time. Both were rather technical but very interesting, and most members present seemed to have learned something they didn't know before.

NEXT CLUB MEETING : 7.30pm on Thursday the 26th September 2013 at the new venue - St Saviour's Church hall, corner of Villiers Road and First Avenue, Walmer (over the road and just round the corner from the First Avenue Funeral Home). We have been able to secure this very nice venue at the same cost as the St George's Training Centre. We will have to supply our own tea and coffee and milk, etc., but we have the use of the church's crockery; we just have to wash and tidy up before we go. The Verger will be there to let us in and out, no worrying about keys or alarms.



This month we will have our old friend, the retired Professor Russell Shone, who will address us on the topic of **CRYSTALLOGRAPHY**, which is something to really look forward to. Our association with Prof Shone goes back many years. Members who are interested can look in the old photograph albums on display at the meetings, and see photographs of a very young Russell leading outings to various locations around the city.

Stones of the month will be Sapphire and Lapis Lazuli, as well as Agate and Moonstone.

GRADING OF COLOURED GEMSTONES

I came across a website (AwesomeGems.com) where I found a very interesting explanation of how the quality of coloured gems is graded, namely according to the hue, tone and saturation of the colour of the particular stone. There are 3 tables which are used to classify such stones. The method of grading is by a system of letters or sets of letters, followed by 2 numbers. The letters are abbreviations of the particular colours and hues of the colours. The first of the 2 numbers refers to the tone or lightness/darkness of a particular gem, and the second number to the saturation of the colour in the gem.

The stone is first identified as to what type of gem it is. The stone is thoroughly cleaned and then held by its girdle over a neutrally coloured background, where the gemmologist looks at it face-up from a comfortable distance - usually about 45cm - in strong diffused light. The light needs to be equivalent to daylight, with the light source being around 25cm above the stone. The stone is then rocked back and forth up to a total of 30 degrees to enable the assessments as to tone, hue and saturation to be made. In the case of a ruby, for example if the primary colour is red and here appears to be no noticeable secondary colour, it would be given the colour "R" - see Colour Scale below.

GIA Type COLOUR SCALE

Abbreviation	HUE	Abbreviation	HUE
P	Purple	StyG	Strongly yellowish-Green
rP	Reddish-Purple	Yg	Yellowish-Green
RP/PR	Red-Purple or Purple-Red	slyG	Slightly yellowish-Green
stpR	Strongly purplish-Red	G	Green
slpR	Slightly purplish-Red	vslbG	Very slightly bluish-Green
R	Red	vstbG	Very strongly bluish-Green
oR	Orangey-Red	GB/BG	Green-Blue or Blue-Green
RO/OR	Red-Orange or Orange-Red	vstgB	Very strongly greenish-Blue
Ro	Reddish-Orange	gB	Greenish-Blue
O	Orange	vslgB	Very slightly greenish-Blue
Yo	Yellowish-Orange	B	Blue
Oy	Orangey-Yellow	vB	Violetish-Blue
Y	Yellow	bV	Bluish-Violet
Gy	Greenish-Yellow	V	Violet
YG/GY	Yellow-Green or Green-Yellow	bP	Bluish-Purple

GIA Type TONE SCALE and GIA Type SATURATION SCALE

Tone and saturation scales are based on the determination of the lightness or darkness of a particular gemstone. Tone should be considered along with the Colour to properly understand the depth of colour in the gem. Good primary colour, if too light in tone, will not be rich enough or, if too dark, will lose brilliancy and transparency. Tone is assessed on a scale of 0—9, ranging from Colourless or White through Medium-Light to Extremely Dark.

Saturation should be considered along with the Colour and the Tone to properly understand the amount and evenness of the colour that is saturated throughout the gem.. The Saturation Scale goes from 1 (Brownish or Greyish) through 4 (Moderately Strong) to 6 (Vivid).

Thus the ruby referred to above as Colour "R", could be listed as "6/5", which would indicate that the gem has "Medium-dark" tone and "Strong" saturation of colour, making this particular gem fall into the "Good" category.

The next step would be to determine the Clarity of the stone. The GIA CLARITY SCALE divides Coloured gems into Types I, II and III, according to the prevalence and prominence of the inclusions which are to be found in all natural gems, and which influence the rarity, and hence the value, of a gem.

More about this aspect in the next Newsletter, as well as some insight into the grading of colourless gems including diamonds.