



National Rock Garden

Celebrating the Geological
Heritage of Australia

Newsletter No. 18

October 2019

Canberra Heritage Festival 2019

Namban Granite—a Spectacular Dimension Stone from WA

Adelong Norite welcomed to the National Rock Garden

Adelong Norite sculptures

Sculptures in the Garden—Mudgee

GSA ACT walking tour of the NRG

Find out how you can help the NRG



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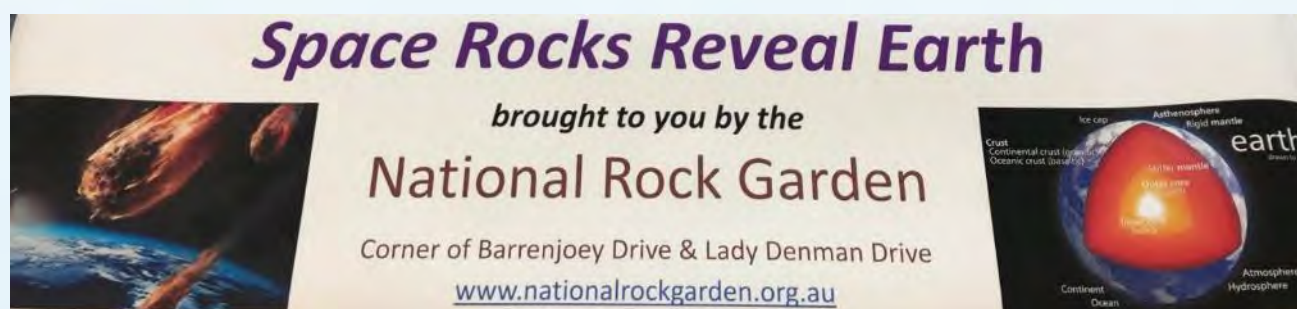
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NRG participation in the 2019 Canberra Heritage Festival

Mike Smith & Marita Bradshaw, National Rock Garden Steering Committee

Introduction

The 2019 Canberra and Region Heritage Festival featured over 200 diverse events across the Canberra region, running from 13 April to 5 May. Now in its 37th year, the Festival raises awareness of the ongoing need to conserve our natural, historic and Aboriginal heritage. With the Festival theme being SPACE, the National Rock Garden Steering Committee decided to participate on three of the Festival days, with a display theme of 'Space Rocks Reveal Earth' to tell the stories of meteorites and tektites by showing rocks that represent the key components of the earth and their links to other parts of the solar system.



1st day—Gungahlin Homestead

Our display on the 1st day of the Canberra and Region Heritage Festival was located under cover on the veranda adjacent to main meeting area for this National Trust (ACT) organised festival event at the historic Gungahlin Homestead in Crace, ACT. This area featured other displays on the history of the ACT, craft activity, and antique handgun collection, choral singing, swing dancing, face painting and food/drink preparation and sale. The National Rock Garden presented the only display with a science focus. The banner (shown above and to right) was prominent above our table, and the sandwich board clearly identified our activity – many thanks to Geoscience Australia (GA) for assisting with these. Our stand was manned throughout the day by Marita Bradshaw, Ken McQueen and Mike Smith, and Brad Pillans assisted with setting up the display in the morning.

Marita populated the table with the following items:

- A globe showing the internal structure of the Earth (thanks GA)
- The olivine-in-basalt bomb showing the character of the mantle (again thanks to GA)
- An enclosed box (thanks Ken) containing iron meteorites, tektites & shatter cone
- Samples of vesicular basalt, and of dense columnar basalt
- A cut block of granodiorite from Young
- Numerous visual displays relevant to our display theme, such as columnar basalt on Mars and vesicular basalt from the Moon.



NRG Steering committee members at the Gungahlin Homestead display. L-R: Marita Bradshaw, Brad Pillans, Ken McQueen and Mike Smith. Image courtesy Mike Smith.

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The booth was close to other interesting displays and was easy to visit by the attendees (estimated to be around 750) so the NRG team had a very busy day explaining the rocks, the Earth's structure, as well as the progress and plans for the National Rock Garden development. There was some surprise when the effective use of a geological hand lens enabled children and lay people to see the coarse minerals of the granodiorite, and the bright green crystals of olivine.

We found many people did have a limited awareness of the NRG, and they were all keen to hear more. There were others who had never heard of the NRG and of our goals, thus the display definitely communicated to Canberra citizens who might otherwise not have learned about the NRG. Our new brochure was taken by most visitors. We received one generous donation of \$100 and we also added



Marita Bradshaw and Ken McQueen with members of the public at the Gungahlin Homestead display. Image courtesy Mike Smith.

several new names and email addresses to the Friends of the NRG.

Children were quite prominent at the Festival Opening, and the science elements of the NRG display held the attention of younger visitors, some of whom already expressed a desire to be geologists. The globe with the removable sector showing the internal structure of the Earth was particularly useful in demonstrating the link between the thick mantle below the crust and the beautiful green olivine sample; and from the iron core to the meteorites on display. The geometric perfection of the heavy columnar basalt block and its contrast with the light and porous sample of vesicular basalt encouraged a lot of hands-on investigation.



Marita Bradshaw and Ken McQueen with members of the public at the Gungahlin Homestead display. Image courtesy Mike Smith.

The tour of the historic homestead was quite rewarding – the primary construction material (shown to right) is **Black Mountain Sandstone**, which was a key local material for many of the early big buildings of Canberra.

Ken McQueen is compiling a preliminary description of this rock, which is likely to prove to be a suitable inclusion for the NRG if there is a large block available at the quarry site.



Black Mountain Sandstone blocks used to build Gungahlin Homestead. Image courtesy Mike Smith.

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2nd day—National Dinosaur Museum



Marita Bradshaw and the NRG display at the National Dinosaur Museum. Image courtesy Mike Smith.

3rd day—Namadgi Visitor Centre

Our last outing was on Saturday 4 May down at Tharwa at the Namadgi Visitor Centre. Again, publicity about the display by the organisers of the Heritage Festival brought about 20 to 30 interested people along to our display of space-related material—the image at right shows some keen listeners. Marita Bradshaw, Michelle Cooper and Brad Pillans attended for the NRG, hosted by the ACT Parks and Conservation Service.

Namadgi is the Aboriginal name which refers to the mountains southwest of Canberra (a portion is shown in the image to right). Namadgi was declared a National Park in 1984 and covers an area of 106,095 hectares. In April 2001, the Ngunnawal people were given official recognition of their association with the land and

On Sunday 28 April, we set up our display on the sunny veranda of the National Dinosaur Museum. Brad, Matt and Marita manned the booth and our generous hosts at the Dinosaur Museum helped with set-up and packing away.

The location was most appropriate as the Dinosaur Museum contains an excellent display of geologic specimens, including two large iron meteorites. It was not as busy as at Gungahlin Homestead but we saw about 15 different groups of people, and all ages were interested in the Earth. Notices of our event by the Dinosaur Museum and Heritage Festival contributed to visits from interstate travellers in Canberra for a wedding; and some families with annual passes to the Dinosaur Museum, who made a special trip out to see our display. Again, we added several new names and email addresses to the Friends of the NRG.



Visitors to the NRG display at the Namadgi Visitor Centre. Image courtesy Michelle Cooper.



Black Mountain Sandstone blocks used to build Gungahlin Homestead. Image courtesy Mike Smith.

cooperatively manage the park with the ACT Government. See:

<https://www.canberratracks.act.gov.au/heritage-trails/track-1-ngunnawal-country/namadgi-visitor-centre>

Conclusion

We recommend further involvement of the NRG in the Canberra Heritage Festival. The events are well promoted and well organised, and provide opportunities to raise awareness of the National Rock Garden with the broader community. Another benefit is the chance to build relationships with other institutions, such as the National Trust ACT, the National Dinosaur Museum, ACT Parks and Conservation Service and the ACT Environment, Planning and Sustainable Development Directorate, as well as the local indigenous communities.

Namban Granite—a Spectacular Dimension Stone from WA

Peter Williams, NRG Steering Committee member

Rock name: Namban Granite

Location: Mid-West region, Western Australia

NRG significance: Building stone, decorative stone, spectacular visual impact

Geological significance: Excellent example of rare granite types and mineral crystals

Utility: An excellent dimension stone with export and domestic economic potential

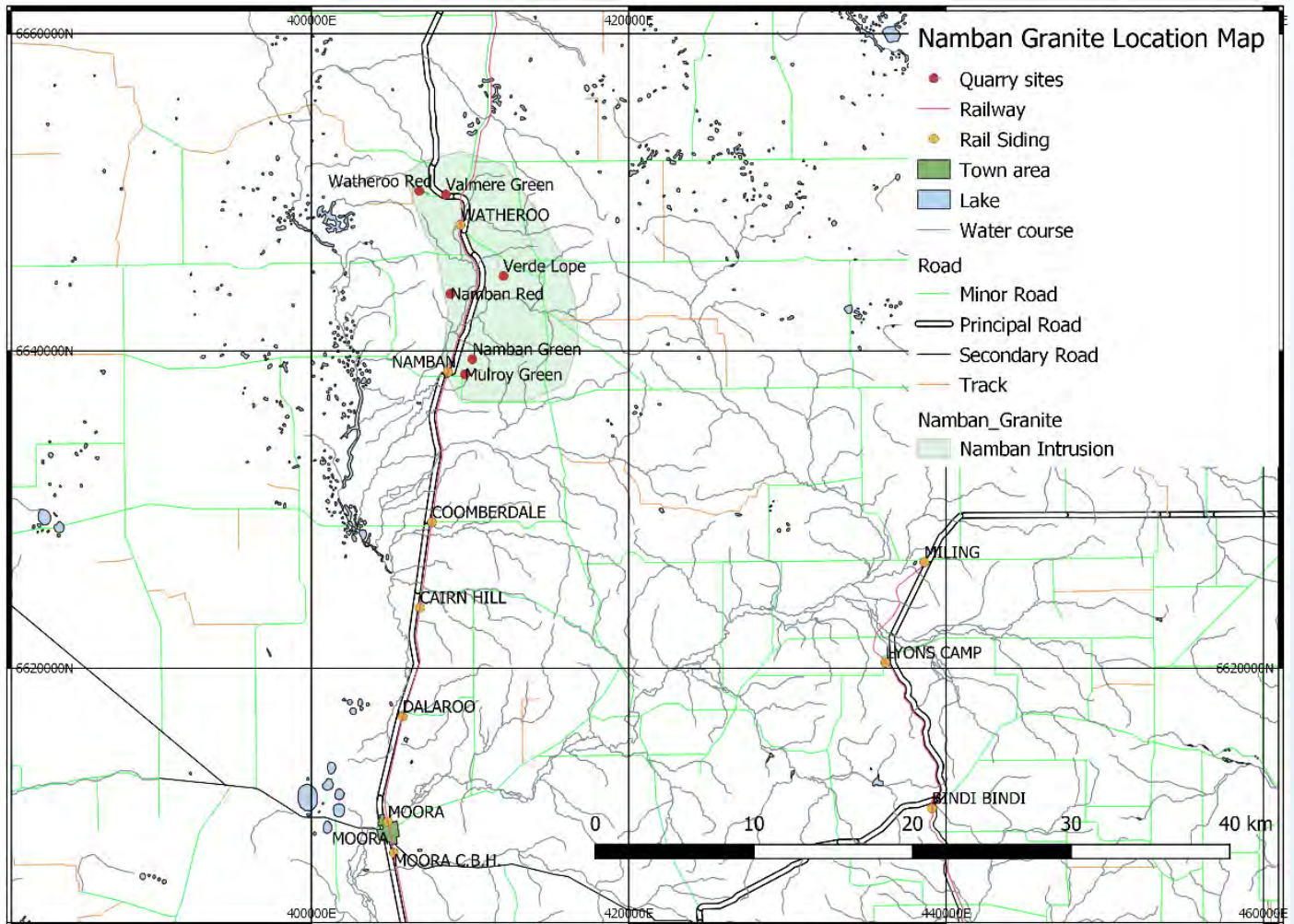
Significant example: Western Australian Parliament foyer

The Namban locality is situated about 10 km south of the town of Watheroo in the Central Wheatbelt of Western Australia, in the Shire of Moora.



Watheroo, Western Australia: central west wheatbelt. Images courtesy Peter Williams.

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*Location of the Namban Granite, shown in pale green. Approximate area is from radiometric map.
Map by Peter Williams using Geoscience Australia digital data.*

The geology of the area is dominated by granite batholiths and smaller intrusions (plutons), one of which, the Namban Granite, is named after the locality of Namban (see location map). The pluton extends north from Namban and through Watheroo, and comprises dominantly coarse to very coarse-grained rocks with monzogranite, monzonite and quartz syenite compositions. These rock names refer to different types of granite according to the proportion of potassium feldspar (orthoclase) to sodium and calcium-rich feldspars (plagioclase), and on the total proportion of quartz in the rock to other constituents. A monzogranite has about equal proportions of orthoclase and plagioclase and more than 20% quartz; a monzonite is similar but with less than 5% quartz; whereas a quartz syenite has 5%-20% quartz and more than 90% of the feldspar is a potassium feldspar.

Six quarries have been opened up in the Namban Granite, and all have been described in the Geological Survey of Western Australia Mineral Resources Bulletin 24 on Dimension Stones of the Southern, Central Western, and Northern Regions by JM Fetherston. The location of these quarries is shown on the location map. The name of the quarries comes from the visual character of the rocks; Mulroy Green is the name of a dimension stone from the Donegal granite in Ireland, which may be the origin of the name. Valmere Green is the colour of green dinner-ware prized in the 1950's.



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Verde Lope. Image courtesy Peter Williams.



Valmere Green—Block of Namban Granite ~4 x 1.5 x 1.5 m (ca. 25 tonne block). Image courtesy Peter Williams.

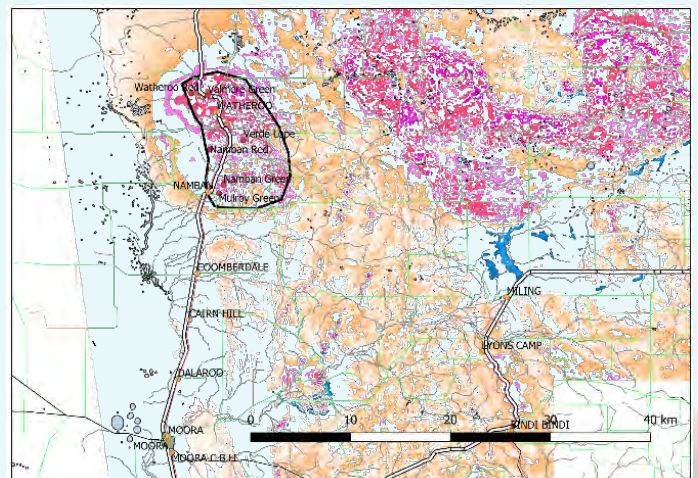
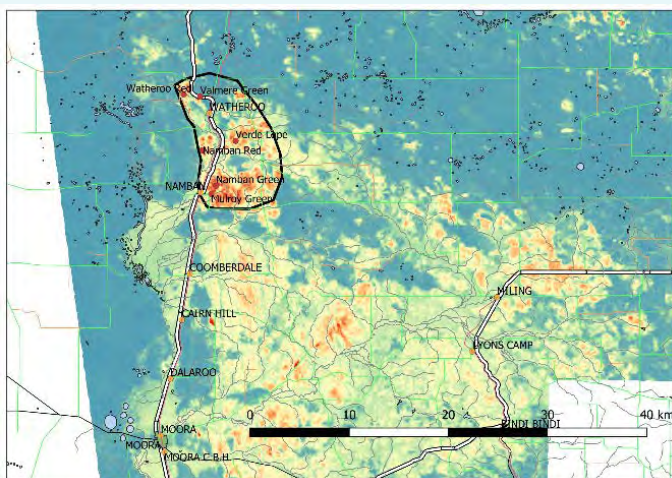
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Watheroo Red from the northern sector of the Namban Granite. Image courtesy Peter Williams.

The age of the Namban intrusion is Neoproterozoic. Three radiometric age determinations for Verde Lope quarry samples show ages of 2638 Ma, 2643 Ma and 2646 Ma, recorded in the Geoscience Australia geochronology database. Interestingly, these ages are similar to syenite and other late Archean small plutons that occur over vast areas of the Yilgarn Craton in southwest Western Australia. These rocks were intruded by dolerite dykes which form prominent ridges in the landscape of the region, and are overlain by Proterozoic Moora Group sedimentary rocks, mainly quartzite and siltstone.

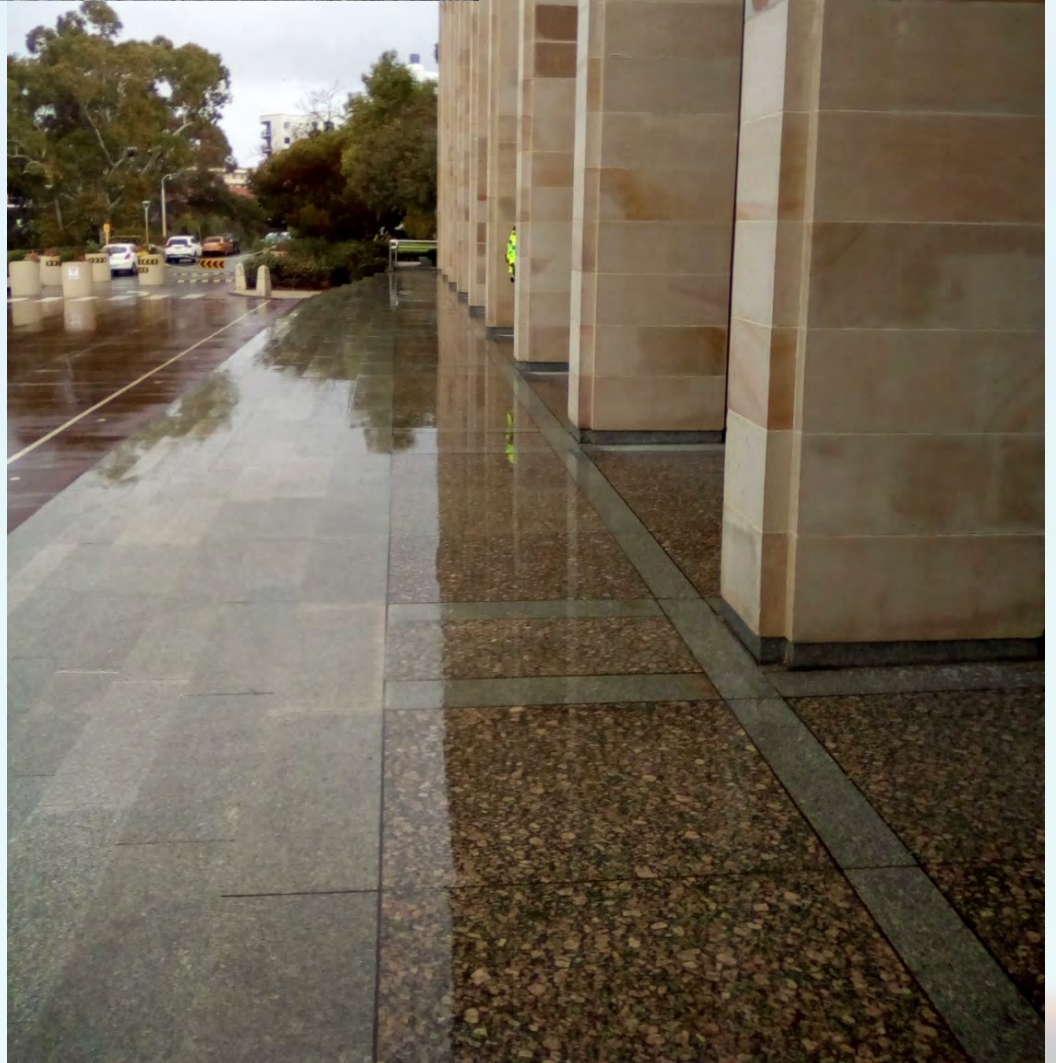
Rock types like those of the Namban intrusion are unusually low in quartz and high in potassium compared to most granites intrusions. They form distinctive patterns in geophysical data, with high potassium and commonly (but not always) a strong magnetic signature. The Namban intrusion can be mapped readily in areas that are underlain by the granite, but where no outcrop can be seen, from the radiometric signature of overlying soils. This is measuring the elevated potassium, which is the main component of the large pink-coloured crystals in the outcropping rocks.



High potassium signature of the Namban intrusion shown by bright red and yellow colours in this image of radiometric data (left) and higher magnetic susceptibility in pink (right).



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Top left: Namban Granite as the floor of the main entrance to Parliament House in Perth

Bottom right: Extensive pavement of Namban Granite, Parliament House, Perth

Adelong Norite welcomed to the National Rock Garden

Brad Pillans, NRG Director

In late November 2018, we welcomed another rock to the National Rock Garden—a 9 tonne block of Adelong Norite, from the historic gold mining town of Adelong in the Snowy Mountains region of southern NSW.

Norite, sometimes called black granite, is an uncommon type of mafic igneous rock. It is a very beautiful rock when cut and polished, as well as being very hard, so it is often used as a decorative building stone and for monuments and headstones in cemeteries. As it happens, the town of Adelong is built on a small norite intrusion of Silurian age—in fact it closely defines the urban area of the town—and for many years, small quarries operated within the town to supply decorative building and monumental stone. The quarries are now closed, but a number of large quarried blocks of norite remain. One of these blocks was donated to the NRG by Sheri McEvoy, on whose land the block was ‘resting’.

Adelong Norite was used to stunning effect as a decorative stone on the iconic Qantas House building which was opened in Sydney in 1957. I was also told that it was used in Old Parliament House in Canberra. However, when I visited there earlier this year, I could not find it. The interior of Old Parliament House features many different kinds of wood, sourced from all over Australia, but decorative stone is hard to find (admittedly, I didn’t check the bathrooms).



Sheri McEvoy and Brad Pillans with the Adelong Norite display specimen. Image courtesy Lynette Mobbs.



*Smaller sculptures of Adelong Norite by Andreas Buisman.
Image courtesy Michelle Cooper.*

I therefore issued a challenge—next time you visit OPH, in Canberra, please help me find the Adelong Norite—and I offered a good bottle of wine to the first person who let me know where it was! [Note that norite also features in New Parliament House, but that rock was sourced from Black Hill in South Australia]. As it happened, Sheri McEvoy solved the mystery—Adelong Norite had been used in the NSW Parliament building in Sydney, but not in Canberra. We are currently following this up to confirm the details of its use!

In recent years, Adelong Norite has also been used by Austrian artist Andreas Buisman to create evocative rock sculptures, including a beautiful polished 9 tonne boulder that sits on the grave of the famous eye surgeon Fred Hollows (1929-1993), in the far western NSW town of Bourke—see Andreas’ story in the next section of this newsletter.

Andreas generously donated his time to partly sculpt the NRG specimen and has offered to do further work on the piece in due course. Bendigo Bank Adelong and the Snowy Valleys Council kindly provided funding to transport the rock from Adelong to the NRG. I particularly thank Stephanie Smyth (BBA) and Mayor James Hayes (SVC) for arranging this funding.

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The inauguration ceremony for the Adelong Norite was held at the NRG on Sunday 25 November in perfect sunny weather, with 70–80 people attending. There was a late storm, but that arrived after the ceremony had finished.



NRG Chairman, Brad Pillans, welcoming the crowd at the inauguration ceremony. Image courtesy Sue Pillans.



Suzanne Orr MLA, speaking during the inauguration ceremony. Image courtesy Chris Nelson.

After an acknowledgement of country and some background comments on Adelong Norite, I introduced Andreas Buisman, who spoke passionately about the NRG concept and the need for funding the masterplan. "It's not a lot of money, maybe 5 million dollars or so for the first stage", said Andreas. The display was then opened by Suzanne Orr MLA, from the ACT government, after which she was presented with a copy of the weighty book, *Shaping a Nation: A Geology of Australia*, published by Geoscience Australia & ANU E Press.

Given the Adelong link with Fred Hollows, it was great that Fred's wife, Gabi, was able to attend, as well as the rock donor, Sheri McEvoy. We also had a surprise visit from Labor MP, Andrew Leigh, Shadow Assistant Treasurer and Shadow Minister for Charities and Not-for-Profits (Andrew's office had previously advised that he had other commitments).



Gabi Hollows and Suzanne Orr MLA at the inauguration ceremony. Image courtesy Mike Smith.

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The day ended with a kid's quiz organised by Ken McQueen – children (under 13 years old) were given a sheet with a series of rock garden questions to answer. The winner, whose parents just happened to be geologists, won a small gold nugget donated by Ken.



*The three amigos: from left to right, Andrew Leigh—MP, Brad Pillans—NRG Chairman, and Andreas Buisman—Sculptor, at the inauguration of the Adelong Norite display.
Image courtesy Tom Kapitany.*

**Next time you visit the NRG website please note that our URL
has changed: nationalrockgarden.com.au**

Adelong Norite sculptures

Andreas Buisman, Sculptor

All images courtesy Andreas Buisman

The first time I came to Adelong was in 2004, in search of boulders that I could use to create a memorial for the late Fred Hollows (picture to right). Local stonemason Terry Kell, from Tumut, sent me over the gap to that little gold mining town.

I favoured rocks with a stark contrast in colour between core and the outer shell - the darker the better! Well, in Henry Street at the south end of town, I eventually found a boulder that would be just fine.....see the result if you ever come to Bourke cemetery!



As the locals have been helpful and friendly plus the rock was readily available, I have come back to Adelong ever since...and even carted the norite to Austria where I work at my studio farm close to the Czech border.

Other favourite rocks of mine include "**Coal**" shown at the Wollongong Botanic Gardens in 2016, where it won the People's Choice Award (below top-left and right). These are three boulders that refer to the city's history. They will be on display at **Sculptures in the Garden** on the weekend 12 and 13 October 2019 in Mudgee. See the information later in this newsletter or go to: www.sculpturesinthegarden.com.au.

I will be there and perhaps catch up with a few of you!



Sculptures from Adelong are being exhibited in Austria, for example "**Visitor and Host**" an Austrian granite hosting his norite friend from downunder, right on the shores of Lake St. Wolfgang in Salzburg county...YES, the one from *The Sound of Music*! (Picture to left and next page, top-left.)



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And another one right in front of the Schafberg, known to the alert viewer from the same film (below, right).



Andreas' sculptures on display in Austria.

A third example would be this work from 2008, in the Strudengau on the banks of the Danube (below).



One of Andreas' sculptures on display in the Strudengau on the banks of the Danube, Austria.

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As for works that have been installed in Australia, I can mention the ANZAC memorial in Bombala, NSW. A polished boulder of norite resting amongst 34 fellow rocks, sourced from farms around the area, commemorating the Bombala lives lost in WWI (below).



And of course if you come to Adelong, check out the sculpture at the new aquatic centre...the kids love it!





'Antideluvian' by Gavin Roberts.

SCULPTURES IN THE GARDEN

PRESENTED BY ROSBY WINES & GUESTHOUSE

SATURDAY 12TH AND SUNDAY 13TH OCTOBER 2019 9AM - 4PM

"ROSBY" STRIKES LANE EURUNDEREE, MUDGEE (10KMS FROM MUDGEE ALONG HENRY LAWSON DRIVE)

Official Opening by renowned sculptor Stephen King

Sculptures In The Garden is an annual 2-day event that exhibits Australian sculpture in a beautiful rural setting within a private garden and vineyard in Mudgee.

\$5 PER PERSON, CHILDREN FREE



www.sculpturesinthegarden.com.au

GSA ACT walking tour of the NRG

Chris Lewis and Michelle Cooper, GSA ACT Division committee

The morning and early afternoon of Sunday 14 July in the nation's capital was bracing. The maximum temperature for the day reached a balmy 8.7°C; however, with the wind chill it felt closer to -1°C. This did not stop around 20 enthusiastic members, friends and family from the GSA and the Friends of the National Rock Garden from braving the elements to attend the ACT Division's first activity of the year.

And what was the draw-card on this particular morning? For some it was a chance to see the rocks at the National Rock Garden (NRG) for the very first time, for others the chance to get some fresh air while enjoying the remarkable specimens that comprise the Federation Rock display and the company of similarly-interested individuals. Those in attendance were provided with a walking tour of the NRG by Matt Townsend, of the NRG Steering Committee, who spoke about the Federation Rocks and several other rocks in the collection. Did you know that the Moruya Tonalite, a large piece of which is on display, was used for facings on the Sydney Harbour Bridge?



Brad Pillans (Chair NRG Steering Committee, sitting on specimen and plaque rock the Mount Painter Volcanics) addressing members at the NRG. Image courtesy Chris Lewis.



Matt Townsend (centre-back) tells the story of the Bendigo metasandstone (Federation Rock of Victoria). Image courtesy Michelle Cooper.

To achieve this goal the NRG continues to seek potential corporate and individual sponsors to help build the collection. You can read more about plans for the Interim Gallery Display in the April 2019 edition of the NRG newsletter (www.nationalrockgarden.org.au).

At the conclusion of the walking tour, attendees were invited to coffee/lunch up the hill at Sprout Café, at the National Arboretum Canberra. Pleasant conversation over a meal, with a great view out over the NRG site, Black Mountain and Lake Burley Griffin, was a great way to end the afternoon.

Right: Attendees examine a specimen of alunite from Buladelah at the NRG



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The Federation Rocks display at the National Rock Garden

National Rock Garden

Celebrating the Geological Heritage of Australia

Although work by committee members and friends of the National Rock Garden is voluntary, we nevertheless incur the regular costs of an incorporated entity. There are also costs for transport and delivery of rock specimens, preparation of specimens for display, creation of descriptive plaques for the rocks, and maintenance of the NRG site.

The acquisition and display of the Adelong Norite in November 2018 and the Mount Gibraltar Microsyenite in March 2018 was each a great success, with good local, regional and national publicity. We are currently documenting proposed new rock garden display specimens and planning a major fund-raising campaign to construct an Interim Gallery Display. We are also building our contacts with the ACT and Federal Governments for critical co-funding opportunities.

While the committee pursues major funding from corporate and government sources, the ongoing costs must be met. We therefore seek donations from individual geoscientists who recognise the importance of geoscience and geoscience education to the future of Australia.

WE WOULD REALLY APPRECIATE YOUR FINANCIAL SUPPORT

Please make a tax deductible donation:

NAME:

ADDRESS:

CREDIT CARD: Visa: Mastercard: (please tick one)

CREDIT CARD NUMBER:

NAME ON CARD: EXPIRY DATE: CVV:

EMAIL ADDRESS:

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SIGNATURE:

Please mail/email this information to: National Rock Garden Trust Inc. c/- Geological Society of Australia, Level 2, Peats Ferry Road, Hornsby, NSW 2077

Email: bradpillans@anu.edu.au

A cheque made out to the National Rock Garden Trust is also acceptable.

nationalrockgarden.com.au

Feedback and further information

We welcome feedback and suggestions on the development of the National Rock Garden. See the feedback boxes on the National Rock Garden website:

www.nationalrockgarden.com.au

Tax deductible

The National Rock Garden is a registered Charity and all donations are tax deductible. Making a donation to the National Rock Garden is a great way to reduce your tax and feel good too! To donate, please visit the NRG website or phone (02) 9290 2194.

Join our mailing list

The newsletter is circulated twice a year, ordinarily March and September. New “friends” are welcome and can be added to the email circulation list by contacting the editor.



Keep up with the latest NRG news, rock movements, rocks of the month and a whole lot more. Like us on Facebook:

<https://www.facebook.com/pages/National-Rock-Garden>

Newsletter compiled and edited by Mike Smith, Brad Pillans and Michelle Cooper.