



The Rock Record – November 2021

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Please contribute to the SGS
Newsletter

The SGS Newsletter is produced by the SGS executive. Letters, announcements, notices, comments, photos, news and information about SGS members, etc. are always welcome. Call an executive member or write to us at:

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President’s Blurb

Hi Everyone.

I hope you’ve all enjoyed summer and this amazing fall we’ve had. Here it is the end of November and any snow we get seems to melt off in a few days. This is delaying a good snowpack for cross-country skiing. Once the snow arrives, I love having lots of it, so bring it on!

Having to spend more time indoors hasn’t deterred our Program volunteers, Brendan Bishop and Dave Thomas, from putting together a great speaker program. Your Society will continue to provide lunchtime talks virtually until the spring.

We are including some information about David MacDougall, the recipient of the 2021 Brian Eckel Distinguished Service Award from APEGS, how you can get copies of the 2022 SGS Geoscience Calendar, and some information about Dr. Don Kent receiving the Geoscientists Canada award. We are also including a tribute to Dr. Laurence Vigrass.

Be sure to add to your calendars that the 2021 AGM will be held virtually on Saturday, February 5th at 1:30 pm. As you know, our society’s ability to function and provide services to our geological community is upheld by the volunteers who support these efforts. More information is forthcoming but please consider joining your executive team. Most positions are light and there will be abundant support to make things easy and familiar. And you’ll get to hang out with a great group of friends and colleagues.

Many thanks to the contributors. This is our community newsletter so please consider contributing yourself.

The Saskatchewan Geological Society is now on **LinkedIn**. Follow the page for updates on upcoming luncheon talks, events, and recent research on the geology of Saskatchewan. <https://www.linkedin.com/company/saskgeosociety>. If there is anything you would like featured on the page or have any suggestions, please reach out to Brendan Bishop at bab495@uregina.ca.

Unfortunately, the 2021 **Saskatchewan Geological Survey Open House** was cancelled this year, again, but we want to thank those students who contributed to the 2021 Student Poster Competition that is being held virtually. Posters are available to the public, online at <https://publications.saskatchewan.ca/#/categories/5582>. Posters presentations will take place on Monday December 6th at 1:00 pm via Microsoft Teams ([click here if you would like to join](#)). Thank you to all the participants, and to our judges.

David MacDougall – recipient of the 2021 APEGS Brian Eckel Distinguished Service Award

Although David was born in Regina, he grew up and received his education in Britain; first at the Romford County Technical School in Essex, England, then at University College Cardiff, a constituent college of the federal University of Wales. He graduated with a B.Sc. honours degree in geology in 1970. Immediately after graduation, David was lucky to find immediate work as a field geologist in the West of Ireland, with Canadian Johns-Manville, the company that employed him as a summer student in Quebec in 1969.

It was in Ireland where he worked for 10 years, married and started a family. During that time, full-time employment with Canadian Johns-Manville changed to short-term contract assignments for that company, including two short seasons in Sudan and work in other parts of Ireland with Maugh Ltd. and Irish Base Metals Ltd.

He did not get back to Regina until 1981 when he took up employment with the Saskatchewan Geological Survey in the Department of Mineral Resources. This work was nothing if not varied. After an initial five months working on the Sub-Athabasca core project, he spent a year in Mines Branch clearing the backlog of assessment files that had accumulated during the uranium exploration boom of the previous decade. His next project was compilation of a Metallogenic Map series. This was interspersed with teaching at the annual Prospectors' School in northern Saskatchewan, preparing exhibits for national and provincial trade shows and scientific conferences and three- to six-week field seasons in the north.

Through his career, David was fortunate to have excellent mentors, whether at university, in industry or in government. He retired in 2007 after 37 rewarding years in geology. You can watch Dave's friend and colleague, Ralf Maxeiner, speak to Dave's award with this YouTube link:

<https://www.youtube.com/watch?v=EOkm78RvsKk>

Don Kent – recipient of the 2021 Canadian Professional Geoscientist Award

June 30, 2021:

Geoscientists Canada is pleased to announce the recipient of the 2021 Canadian Professional Geoscientist Award – Dr. Donald M. J. Kent, P.Geol., P.Eng., FGC, FEC, of Regina, SK The Canadian Professional Geoscientist Award recognizes the achievements of an individual who has made an outstanding contribution to the development and practice of professional geoscience and who has advanced public recognition of the profession in Canada in their capacity as a registered professional geoscientist. The award, which consists of a labradorite and marble sculpture made by a Canadian geoscientist artist, is given to a person in mid-to-late





career. This year's recipient of Geoscientists Canada's highest honour, Dr. Donald Kent, is a distinguished award-winning geologist with long-standing research interests in the geology of carbonate hydrocarbon reservoir rocks. His contributions to understanding the petroleum geology of Canada, in particular the Williston Basin, provided much of the foundation upon which petroleum exploration in Saskatchewan was based.

This link will take you to the full article.

[**Saskatchewan Geoscientists, Donald Kent, P. Geo., P.Eng., FGC, FEC receives 2021 Canadian Professional Geoscientist Award**](#)

A tribute to Don from Janis Dale.

Dr. Don Kent is one of the original five members of what is now the Department of Geology at the University of Regina. His devotion to teaching was evident throughout his career and his impact lasts to this day, best seen by his sedimentology course and associated labs where students get hands on experience using cores from the Core Lab. In addition, Don was selected to chair the first national committee to develop the course requirements for professional accreditation for Geoscientists (APEGGS) that still stands today. Don continued to teach for many years after his retirement, a blessing for department heads. After retirement, he and Dr. Bob Macdonald graciously developed and taught a fourth-year course covering the Geology of Saskatchewan, which allowed new generations of geology students to benefit from their combined knowledge. The impact of his teaching and the affection and respect with which Dr. Kent is held is best illustrated by the fact that in 2005 the undergraduate geology students renamed their club the DM Kent Club of Geology to honour him and show their appreciation for his contribution to their education and experience at the University of Regina!

Don's love of field trips and experiential learning is legend in the department. He set up a field trip fund for the students that has been used for many excursions including one to Iceland! I first met Don on an SGS field trip to North and South Dakota. I had just moved to Saskatchewan and knew next to nothing about the geology of the prairies. "What's the Bakken?" I asked, the look on the group's faces was priceless except Don and Jim Christopher who set out to explain the entire history of the Paleozoic! This broke the ice, and set off a barrage of questions from the others who now felt confident to ask after my ridiculous question! Don later teased me that he was trying to shift me from surface geology to the subsurface!!

The 2022 Saskatchewan Geoscience Calendar is available!

The Saskatchewan Geological Society's calendar is in its seventh year of production. The images represent an excellent array of interesting geoscience features from across our province, including landscapes, rocks, fossils, aerial imagery. The calendar is also packed with information in the Did You Know, Digging Deeper and Fun Fact sections.

The calendar is available for purchase in Regina at the MacKenzie Art Gallery, the Royal Saskatchewan Museum, and the University of Regina bookstore and in Saskatoon at the U of S bookstore, the U of S Geology Department, and McNally Robinson bookstore





Saskatchewan Geoscience Calendar

2022

Purchase yours from...
 Contact the SGS, or visit the SGS website for more details on where to obtain a copy locally!

\$10



These wall calendars are designed by the Saskatchewan Geological Society - They educate and promote geoscience and its impact on our lives and the prosperity of our province. Monthly photos are accompanied by fun facts that highlight the diverse geoscience from across the province, from under the microscope to northern landforms!

The Sask. Geological Society is a non-profit organization; for more information on our activities and outreach programs, visit sgshome.ca



Proceeds from calendar sales help the society conduct future outreach projects, provide an incentive for future editions, and facilitate additional luncheon talks. Calendars that remain in January are donated to schools.

The society is always seeking photos for the next geoscience calendar. Visit www.sgshome.ca for details.

The calendar retails for \$10 (1-4 copies), \$8 (5-9 copies) and \$6 (>10 copies). You can also place larger orders online by completing an order form. Visit the society's website for further details at www.sgshome.ca.

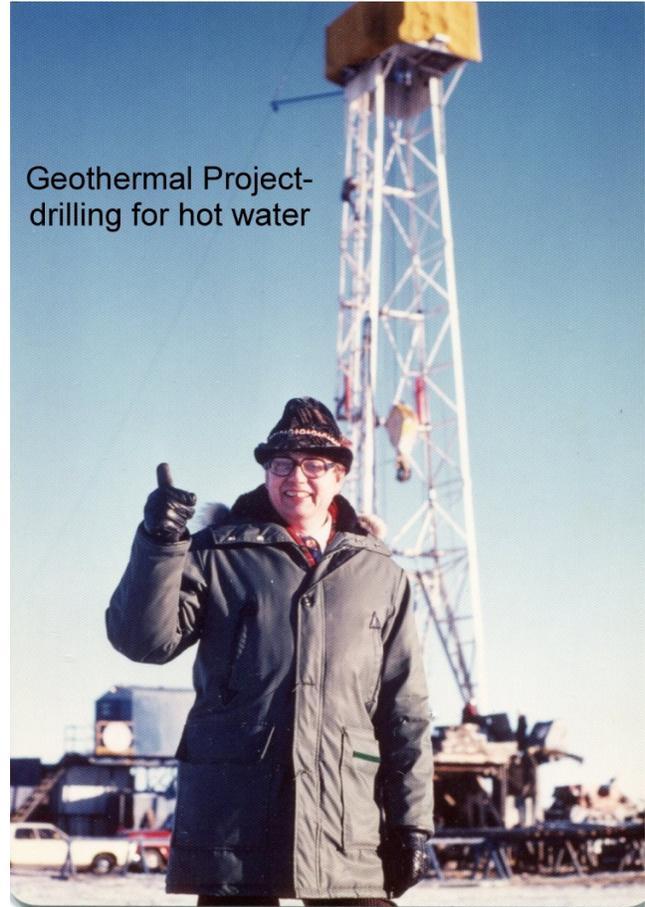
Remembering Laurence Vigrass.

Laurence Vigrass was a good guy, and a geologist. He passed away on October 19, 2021. Laurence was a big man with a big smile and a big heart who made a significant contribution to our geological community. A copy of the 2006, SGS Geoscience Honour Role is followed by some personal comments from Laurence's friends and colleagues.

SGS 2006 Geoscience Honour Role Citation:

Laurence Vigrass is a native son of Saskatchewan. He was born in Melfort in the parkland region of the east-central portion of the province and was raised on a farm near Pathlow, not far from his birthplace. He is the eldest of two boys in a family of six children. He received his early education in the Pathlow area and after secondary school graduation, he entered the College of Engineering at the University of Saskatchewan. He registered at a time when the university facilities were strained to their limits by large enrolments of World War II veterans. His close proximity to the land through his





farm upbringing was, undoubtedly, a factor that led Laurence into geological engineering and he received his B.E. degree in 1951. He continued his studies the following year to obtain the M.Sc. (Geology) degree. His thesis was a subsurface study of the Jurassic rocks of Saskatchewan using all borehole data available at that time. Like most geology students at the U of S, Laurence spent his summers on the Precambrian Shield of northern Saskatchewan, but on graduation he entered the field of petroleum geology. He began his professional career with California Standard (Chevron) working out of the Regina office. Although wellsite work was a major part of his early training, he also did field work in southern Saskatchewan and in the Canadian Rockies. While at the U of S, Laurence met his wife Glenna, a graduate of St. Paul's School of Nursing in Saskatoon, and shortly after he commenced employment with California Standard, they were married. In the late 1950's Laurence took a break from gainful employment to study for a Ph.D. degree at Stanford University, which was awarded in 1961. His thesis was a mapping project in eastern Oregon, supported by Humble Oil Company and as was the case with his M.Sc. thesis the rocks in his study area were mainly Jurassic in age. Laurence returned to petroleum geology with Imperial Oil and began a long association with heavy oil and tar sands. It was during this period that he published his well-respected paper "Geology of Canadian heavy oil sands" for which he received the CSPG Link Award. His interest in heavy oil reservoirs led to a second award-winning paper, in 1978, entitled "Trapping of oil at intra-Mannville (Lower Cretaceous) disconformity in Lloydminster area, Alberta and Saskatchewan. He received the CSPG Medal of Merit for this paper. He left Imperial in 1965 to begin a career as a consulting geologist. However, in 1968 he was recruited by Dr. Tony Gordon and became a member of the fledgling Department of Geology at the University of Regina. At one time or other during his tenure at the U of R, Laurence has taught a wide variety of classes including Structural Geology, Ore Deposits and Mineralogy, but he is known best for his courses in Petroleum Geology,





1955 Overlooking Deception Creek

1944 Making Tea

Groundwater and Geomorphology. In 1976, he was seconded to the Energy Research Unit as the Director. He played a leading role in attracting research and contract funds to that unit and was instrumental in initiating studies into applications of alternate forms of energy. In spite of his support of non-conventional forms of energy, he did not divorce himself from fossil fuels. He promoted coal petrology and coal chemistry research as well as continuing his career long association with heavy oil. It was through Laurence's efforts that Judith Potter came to the Energy Research Unit and the Department of Geology; her work, and that of her graduate students, in coal petrology and later in organic petrography of petroleum source rocks, established good reputations for both entities. However, Laurence is probably best known for his low-grade geothermal project and for the well that was drilled on the U of R campus to test the heat capabilities of the deep subsurface fluids. To complete the project, a second well for water disposal and a building for space heating experimentation were needed, but much to Laurence's chagrin financial support by both federal and provincial governments was rescinded and the completion of the project stalled. However, the experiments carried out on the original well have supplied Laurence with considerable data, which he has been able to apply to other projects. This has made him sought after for his understanding of the significance of well flow-test data, formation fluid migration and the geothermal potential of deep formation fluids. His knowledge in this area has resulted in numerous invitations to make presentations, as well as foreign consultations in Brazil and Iran. Locally, he was a consultant to the City of Moose Jaw on its geothermal well project. The well resulted in the development of the Temple Gardens Health Spa and the rejuvenation of downtown Moose Jaw. Laurence left the Energy Research Unit in 1985 to return to fulltime teaching in the geology department and in 1988 he took over as department head. After three busy years as head, he decided to take early retirement, to devote more time to consulting and to the pursuit of leisurely living at the Vigrass retreat near Katepwa. I know that you will agree that Laurence Vigrass has made significant contributions to Geoscience in Saskatchewan through his research and his teaching at the University of Regina.



From Riona Freeman:

I met Dr. Vigrass through my dad; both men were members of the Eastview Rotary club. My dad had mentioned to Laurence that I, after recently completing my BSc, was looking for a place to do graduate work in hydrogeology and a meeting was set up for an interview. Before I knew it, I was the only student in an 800-level hydrogeology class taught by Dr Vigrass in a U of R classroom, complete with overheads! I think we were both embarrassed when I would occasionally fall asleep (a la Dr Kent). My poor performance in the fluid mechanics engineering graduate level class (I don't think that professor was thinking of me when he said that all one had to do to pass was to show up for every class but I held him to his word!) led us to decide to focus a project on chemistry rather than flow dynamics. We were both pleasantly surprised when the thesis was accepted (although a recent search on the geology webpage fortuitously omits this work). I was his last full graduate student, and I still think that he may have regretted retiring on such a lacklustre note.

Although he was such a large person, I was always impressed by Dr. Vigrass' gentle nature. He had a great sense of humour and was pretty self-deprecating. I didn't realize until I had joined the oil patch in Calgary and was working heavy oil in the Lloydminster area, his contribution to the geology of Mannville heavy oil. I recollect him being most proud (with respect to his geological career) of having an ammonite named after him - *Eumetoceras vigrassi n. sp.*

During the 1990s, when I was working for what was then Sask Energy and Mines (and also endlessly finishing my thesis), Dr. Vigrass shared an office downtown with Brian Brunskill and, for a time, the fledgling Lateral Vector. He was always at SGS talks, geology conferences and social events. In the summer, we would sometimes meet to eat lunch in Victoria Park and catch up. It was a very formative time of my young career and I will always be grateful for his time and encouragement.

I reunited again with Laurence only in 2019 after I saw Glenna's obituary in the Calgary Herald and went to the Celebration of Life held for her in their residence building. Previous to this, I last spoke to Laurence in 2016, when he called to extend his condolences after my father's death. Of course, I was late, but I remember seeing him in the front row, sitting in his oh-so-typical slouch, dressed in a handsome blue suit but sprawling out of his chair (as most of us can remember him very commonly doing). He looked great – if his mind was being ravaged by disease, his body hadn't got that memo. After the service, I went up to speak to him, hesitant about what his reaction would be. I will never forget the moment when he noticed me and his eyes lit up and he smiled. (As he was non-verbal at this point, I am not sure if he really did know *me*, but he certainly acted like he did and I will treasure that for the rest of my life.) When I went to speak to Mark, his son, after to re-introduce myself to him, I burst into tears. I'm sure Mark thought I was a lunatic but I was so overcome with the sorrow of knowing that this man who had such a great mind and personality and who had generously shared that intellect & wisdom with so many students and colleagues, was slipping away.

He and Glenna were a great couple who understood and loved each other deeply. Laurence and Glenna lived in a multi-need Calgary facility - Glenna was independently living in an apartment and Laurence resided in the 'memory ward' on the main floor of the same building. She would spend time with him every day, despite her limited mobility. After her passing I was able to visit him weekly for a couple of months, where I continued to (occasionally) frustrate him. His caregivers told me that he cried every day for several months, obviously missing her and somehow knowing that she was gone. (The staff were very kind and respectful and took excellent care of him.) Unfortunately, COVID restrictions ended my visits. He eventually was able to move to Edmonton to be closer to Mark, his son.



Dr Vigrass had a long and productive life and was a success – not only as a teacher and a geoscientist, but as a husband, father, friend, and mentor. That is a great legacy.

From Mike Thomas (U. of R. Geology class of '75):

I took my first course at U of Regina (known then as U of Saskatchewan, Regina Campus) from Dr. Laurence Vigrass in 1971.....50 years ago. Yikes. Geomorphology. I of course did not have a clue. Despite this shortcoming, I was offered a job the following summer working for Drs. Kent and Vigrass preparing geochem samples at the Subsurface Lab, and assisting them in their respective research in whatever way might turn up. This involved some field work. And so my first trip was to Cypress Hills with Dr. Vigrass to measure some sections in the Upper Cretaceous – Paleogene rocks exposed there. We drove out to Eastend one fine morning in June, checked into the local hotel, and did a bit of reconnoitring prior to the following day on the rocks. That day dawned hot, and dry, and windy, and these 49 years later all I can really remember was clinging, at times precariously, to the side of Ravenscrag Butte, fine sand blowing into my eyes and nose, and Dr. Vigrass calmly and steadily describing and sampling his way up the section. He not rarely interrupted his work to patiently explain to me, his assistant, some of the things he was seeing and their importance. He obviously was unaware that I, his assistant, had not the faintest idea of what he was talking about. And what's more, his assistant, me, had by mid-morning come to the obvious conclusion that he was crazy. Nevertheless, we carried on, me reluctantly, and Dr. Vigrass obliviously. When we finally called it quits late that afternoon, we were both weary and dust-covered and hungry and thirsty. We headed to the Eastend Hotel and strolled into the café for dinner. And when Dr. Vigrass suggested to me that maybe we should have a beer, I can vividly recall that *that* was the very moment I began to re-evaluate my concerns about his mental stability. The waitress promptly brought us 2 draft each, and moments later when Laurence had enthusiastically finished his two, and me one, she brought us 4 more. I can also remember well, thinking on the drive home from my first field trip that maybe this geology thing was not that bad a gig after all. Who'd of ever thought such a notion?

A couple of weeks later, we headed into the field again, this time with Dr. Kent. It turned out that Don and Laurence were preparing a field trip road log of the Avonlea Badlands through to the Big Muddy Valley for a conference to be held sometime later that year. The day again dawned hot, and dry, and windy, and the sand and silt were most certainly flying around in the air again. But I had been metamorphosed a bit after my first field trip to Cypress. Like St. Paul, I'd had an epiphany. And so, it turned out that after driving around looking at outcrops and listening to Don and Laurence discuss these rocks, sometimes agreeing about them, not rarely disagreeing, considering the other's arguments and answering again with their own like musicians riffing off one another's solos, I think I became hooked on this rock stuff. It did not hurt of course that also on this trip, Don and Laurence introduced me, their assistant, to the draft beer served at the area's many local hotel beer parlours (*that's what they used to be called....."beer parlours"*) from Wilcox to Ogema to Bengough to.....you get the picture. And I felt even more part of this unlikely "team" when I saw that, like me, Don had to work pretty hard to keep up with Laurence when it came to drinking draft beer on a hot, dry, windy Saskatchewan day.

Dr. Laurence Vigrass was a big man. He had a big thirst, a bigger heart, and with his U of R colleagues he helped teach a generation of young geologists about rocks and the profession with a passion and dedication that we, their students, can only aspire to. Thank you so much Laurence.



From Brian Brunskill:

I met Laurence in about 1982, early in my geological studies at the U of R. I was particularly concerned about his portion of a petroleum geology class I was taking because I'd heard it would involve both physics and calculus...a scary prospect for me. Fortunately, this was not the case. In 1991, Laurence retired from the university, but had no intention of quitting geology. I had gotten to know him through our involvement in the SGS by then and was looking for help with a consulting project I was working on. Laurence was eager to get involved, so we set up shop with two other Regina geologists, Lloyd Freeman and John Burton. The next two years were the best-of-times as everyone got on so well. On reflection, it was one of my most favorite working environment ever, even if we didn't discover any oil.

When that project ended, Laurence and I moved to an office in downtown Regina. We had separate companies but collaborated on many speculative, high-risk, high-reward projects...the most fun kind. At that time, we were well experienced with the benefits of horizontal drilling in southeast Saskatchewan. Although the geology is generally similar in North Dakota and Montana, they had yet to discover the real opportunities using horizontal drilling. So, we spent a few years hunting for properties south of the border and put a few projects together. The plan was to entice well-heeled Canadian oil companies, also familiar with the benefits of horizontal drilling, to buy properties in the US that would be suitable for development. Although we got close a few times, we never actually made any money, again, but we had a ton of fun going through the motions. We were going for blockbuster projects. And there were times when it looked like one might actually close. One evening, after a very positive presentation, we were enjoying a whiskey in a hotel lounge, where we were fantasizing about what we might do if the deal closed and we made a bunch of cash. Laurence, with a very serious face, slowly said, "with my share, I'd spend half on wine, women and song." After a pause, he looked up and with his typical grin, then said "and the other half, I'd just piss away."

We muddled along for a few more years until the next crash when oil fell to less than \$9 per barrel. We abandoned our downtown office and both set up shop at home but didn't pursue any consulting work together after that. As many of you know, while Laurence was at the University of Regina, he was the director of the Energy Research Unit. In the late 1970s, he and then President Lloyd Barber championed the idea of developing a deep geothermal energy project to heat several buildings on campus. In the winter of 1979, a 2200-meter-deep geothermal test well was drilled, and although the project wasn't actually completed, we did learn enough to support the reliability of this technology in southern Saskatchewan. Some 27 years later, I became interested in how geothermal could support low carbon energy development in Saskatchewan, so Laurence became my mentor, once again. Although he was the holder of all the technical reports, there was no central document that summarized the project. We gathered all the information available and in 2007, published a report with the Saskatchewan Geological Survey, which has served as a critical resource to anyone interested in developing low-grade geothermal energy in Saskatchewan. Completing this work with Laurence was a watershed period for me, resulting in a significant shift in my career path. We have both been strong advocates for this and other low-carbon energy projects ever since.

For the next decade, Laurence and Glenna took to traveling, and winemaking. When we got together, Laurence would always ask "Any geothermal projects yet?" Even as his cognition was evolving, he would assure me that he wanted to be involved if a project came up.

There is a big place in my heart for Laurence and Glenna. But isn't this the very nature of friendship? Aren't our friends just the best?





SASKATCHEWAN GEOLOGICAL SOCIETY

CLOTHING 2020



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