

**MY SEARCH FOR MAJOR JOHN LESLIE (LES) CHARLES;  
AN EXTRAORDINARY CANADIAN RAILWAY ENGINEER**

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**Introduction**

In recent issues of *Canadian Geotechnique*, Canadian railway engineer **Major John Leslie (Les) Charles** (1892-1992) was mentioned in an article by **Lukas Arenson** and his co-authors (Fall 2022), and in a short vignette by **Don Shields** (Winter 2023). These articles reminded me that I first heard about Charles in the early 1980s. At the time, I was a member of the Canadian Geotechnical Society's Canadian Geotechnical Heritage Book Project, and Charles was interviewed for the project. The interview took place in Winnipeg in 1982, where Charles was living and closing in on 90 years-of-age. I was fascinated by this extraordinary engineer. His 65-year career (1910-1975), primarily with Canadian National Railway (CN), spanned the evolution of route location from being carried out on foot, canoe, horse and dog sled, to airplanes and helicopters.

The recent articles encouraged me to find out more about Charles' life and career. I started by reading a transcript of the 1982 interview (all the CGS interviews are available at the University of Alberta Archives) and then found a short summary of his life on Wikipedia. That summary included a 1914 photo of Charles as a 22-year-old living in a tent while surveying the location for the Hudson Bay Railway in northern Manitoba, and a reference to a 1978 memoir. Then I typed his name into Google and up came a few more good references.



Charles at HBR survey camp in 1914 (source Wikimedia Commons)

Thinking I had enough information to write a general article about Charles for *Canadian Geotechnique*, I started typing. The result was so-so. I realized that I really needed to find and read a copy of his 1978 memoir.

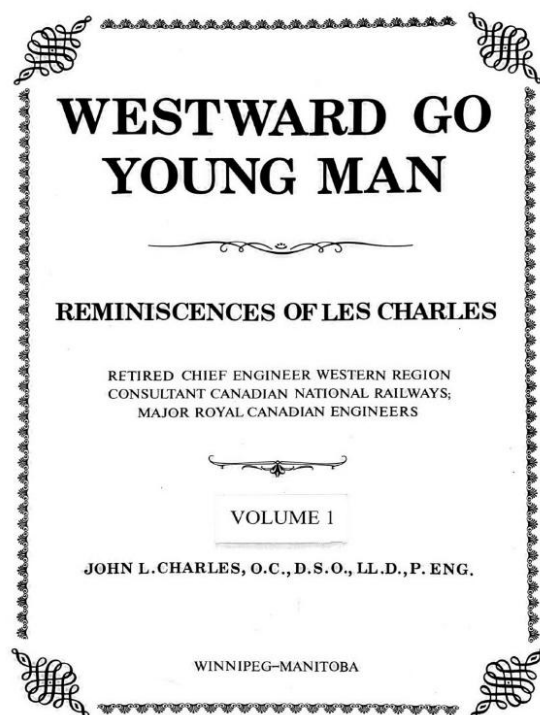
**Finding Major Charles' Memoir**

I checked the usual online sources for Charles' memoir but without success. Because of his long association with CN, I searched for the CN Archives. Again, no luck. Then I remembered that **Mario Ruel**, a past president of the CGS (2017-2018), had worked for CN for most of his career. I contacted Mario in Montreal and asked if he or any of his former colleagues or contacts at CN Archives had a copy of Charles' memoir. or knew where I might find a copy. He only vaguely remembered the name of Major Charles and said the CN Archives ceased to exist in the mid-1990s. However, he would ask around.

About a week later, Mario gave me the name of **Nigel Peters**, former CN Chief Engineer. I contacted Nigel in Mill Bay, BC, but he, too, only vaguely remembered the name of Major Charles, but thought he knew someone who might have a copy of Charles' memoir.

A few days later, Nigel introduced me to **Grant Bailey** in North Bay, Ontario. Grant, a railway engineer himself, is the son of the late **Ron Bailey**, a former Chief Engineer of CN's Mountain Region. Ron had worked with Charles towards the end of Charles' career. Bingo! Grant had a copy of Charles' memoir he inherited from his father that he would lend me.

Expecting a relatively short memoir, I was surprised when I received a 5 cm-thick document, containing 430 typed pages and 180 pages of photographs. The memoir is titled *Westward Go Young Man*, with the subtitle "Reminiscences of Les Charles, Retired Chief Engineer Western Region [and] Consultant Canadian National Railways; Major Royal Canadian Engineers." The memoir was written in 1975 and copyrighted in 1978. It was typed and printed by CANAC Consulting (CN's consulting arm at that time) in the standard 8 ½" by 11" style of an engineering report. I'm guessing that only a few, perhaps two dozen, copies of the memoir were printed.



Title page from Volume 1 of *Westward Go Young Man*

### ***Westward Go Young Man***

I immediately stopped reading the book I was enjoying and started to read Charles' memoir. Once started, I could barely put it down! I read how and why a 17-year-old Charles, by himself, left England in 1910 and started to work as a chainman for the Grand Trunk Pacific Railway in Alberta and BC; how in 1913, he was transferred to a rail line location survey party for the Hudson Bay Railway (HBR). The memoir tells the compelling story of his adventures in northern Manitoba living in a tent and working year-round as a transit man on surveys supported by canoe and dog sled. During this period Charles first encountered and appreciated the engineering significance of what we now call permafrost.

The story continues with Charles serving in Europe during WWI, rising to the rank of Major (his prefix for the rest of his life) and King George V presenting him with a Distinguished Service Order (DSO) in a ceremony at Buckingham Palace. After the war, Charles joined CN and in 1928 completed the arduous location survey for the HBR's terminus at Churchill, Manitoba. He worked at a reduced salary for CN throughout the Depression to support his wife and two children. Over the next few years, he gained more engineering experience and took on new responsibilities working in a variety of engineering roles for CN throughout western Canada.

I read how Charles rejoined the Canadian army in 1939 and, among other assignments, in less than six months he successfully organized, carried out and reported on a 2,250 km rail line location survey for the US Army from Prince George, BC, to Fairbanks, Alaska. After the war he served as Chief Engineer for CN's Western Region until 1958, a period of Canadian rapid industrial expansion. The President of CN wouldn't let Charles retire so he worked as a consultant for CN on the location of northern Canadian rail lines for another eight years, until he was 73. When Charles finally retired from CN, he was involved in location surveys for rail lines in Zambia, Tanzania and Brazil. This last project in 1974, was supported by airplanes and helicopters and utilized a very early form of GPS called "Geofix". He turned 82 during this assignment and had to interrupt his field work to return to Canada to be invested as an Officer of the Order of Canada.



Charles in 1981, age 89, with his Order of Canada lapel pin (source Grant Bailey)

Charles' memoir reads in part like a young man's adventure novel, part like a history of railway engineering in Canada and part like a personal history. It includes fascinating stories about his projects and descriptions of the intriguing individuals he worked with, many of whom were Indigenous. Charles also provides some insights into his own character and how he saw the profession of engineering changing. (Although he didn't study engineering at a university, based on his experience he became a P.Eng. in 1921 and served as President of the Association of Professional Engineers of Manitoba in 1953.)

### My Follow-up

After reading his memoir, I realized that I am probably one of the few CGS members who remembers Charles. I felt I had to share his story and his memoir with other members. But how could I share this copyrighted memoir? I started by writing a more complete article for *Canadian Geotechnique*, but this article soon exceeded the word limit for the magazine.

At the same time, I needed to return the borrowed copy of Charles' memoir to its owner. So, my wife and I painstakingly scanned the thick, bound memoir, page by page.

I also realized that I didn't know how Charles spent the last 17 years of his life after he wrote his memoir. I really had to find one of Charles' descendants to get permission to upload the memoir to the CGS website and find out what Charles did in his later years.

From my research I knew that Charles' wife **Helena (Lena)** died in 1973. His son, **John**, a bachelor, was killed in action during WWII. His daughter, **Eira (Babs) Freisen**, died in 2008. However, Charles' memoir included the names of Eira's children -- Charles' grandchildren. After unsuccessfully going down social media "rabbit holes," contacting the Manitoba archives, submitting something to the *Winnipeg Free Press* and even getting a friend's brother, who lives in Winnipeg, to do some searching for me, I finally found one of Charles' grandsons, **John Friesen**, a retired doctor, through the Manitoba Medical Association.



Charles' gravestone in the St. John's Anglican Cathedral Cemetery, Winnipeg (source Holly P., <https://www.findagrave.com/cemetery/1980161/saint-john's-anglican-cathedral-cemetery>)

John was very interested in my research project. It turns out he had written the short Wikipedia article about his grandfather. After contacting his siblings, he gave me permission to upload Charles' copyrighted memoir to the CGS website and encouraged me to otherwise share what I have learned about his grandfather to the geotechnical community. Through the grandchildren I learned a bit about how Charles spent his last years. And, as you can imagine, after the life and career that Charles had, he just didn't sit around in his later years!

### Concluding Remarks

After finding a copy of Charles' memoir, getting permission to upload it to the CGS website and learning about the last years of his life, I finished my brief biography of Charles, emphasizing his work on the Hudson Bay Railway. Both the biography and his memoir *Westward Go Young Man* are in the CGS Heritage Committee's Virtual Archives on the CGS website, [https://www.cgs.ca/virtual\\_archives\\_specific\\_pioneers.php](https://www.cgs.ca/virtual_archives_specific_pioneers.php).

Also from Grant Bailey, I learned of a 1976 short documentary film on the history of the Hudson Bay Railway, titled *On to the Bay*, that features Charles. Grant provided me a relatively poor copy of this film, which was produced by the now defunct Canadian Institute for Guided Ground Transport based at Queen's University. I approached CGS member **Andy Take** of Queen's to help me find this film. He, and his graduate student **Natalie Arpin**, contacted Queen's Archivist **Alicia Cappello**, and she and her colleague, **Jeremy Heil**, located and digitalized the 22-minute film. It can be viewed at <https://digital.library.queensu.ca/bay>.

Coincidental to my research on Charles, in the past several years there has been an increase in geotechnical research on the HBR. As reported by **Brett Young** and his co-authors in the Fall 2023 issue of *Canadian Geotechnique*, "PermaRail" is a collaborative research program investigating climate change effects on the railway corridor and strategies to promote the resilience of the railway. The research is being carried out in partnership with the Arctic Gateway Group, owner of the HBR, by researchers from the University of Calgary, Carleton University, the Royal Military College, Queen's University and Université Laval. The program is being led by **Jocelyn Hayley** (University of Calgary).

I hope that those researchers, and others in the CGS, will enjoy and appreciate learning more about Major Charles, the extraordinary engineer who, among many other accomplishments, was directly involved with the location of the HBR 100 years ago.



Charles surveying along HBR approximately 450 km northeast of The Pas, mid-1910s  
(source Eira Friesen, Charles' daughter)

I big thank you to all those individuals mentioned in this article (and others who I may have missed) who helped me “find” Major Charles.

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