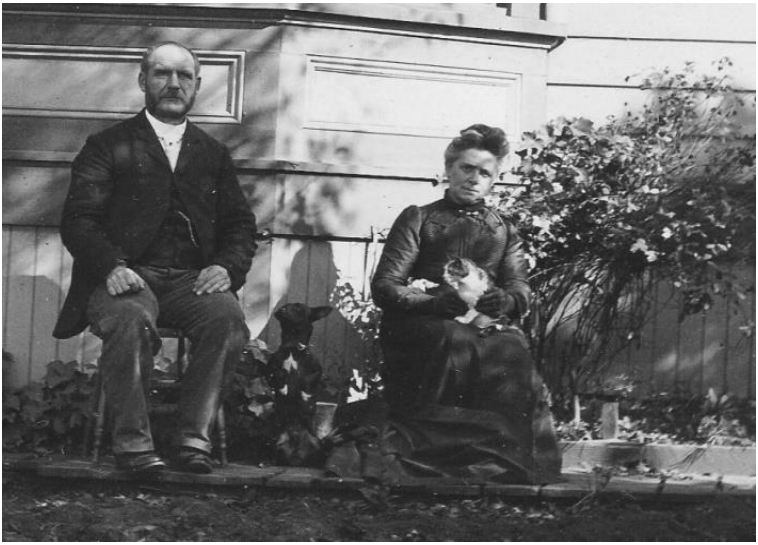
Chapter Twelve: Vancouver Island Expert, Vast Mineralogy Collection

Victoria

On their return to Victoria Will and Annie bought 89 Discovery Street, appropriately named and in an affluent part of the city. They were very much members of middle-class Victoria - indeed, the whole family, including Will's sister Fannie and Annie's sisters Amy and Kate, were members of various societies, including the Victoria Literary Society.

Here is a photograph of Will and Annie, taken a few years later, sitting in the garden outside their house. Notice the cat on Annie's knee, which is looking at the dog on its hind legs, which is looking up at Will – what a clever photograph.



Will and Annie © Basil Fox

Geologist for James Dunsmuir

Will became James Dunsmuir's personal geologist. In this capacity he travelled around British Columbia and further afield looking for opportunities to expand the Dunsmuir empire. There appears to be few records of Will's work for the Dunsmuirs,[i] we are, therefore, dependent on other sources, primarily *The Colonist* and Will's photograph album.[ii] These constitute a mere glimpse into his activities during this period:

- In June 1900 Will is surveying Quatsino for coal and facilities for a potential railway terminal. Whilst in the area he is asked for his opinion on a mine, his full response is published in *The Colonist* (Appendix B); Will concludes:

  I feel assured that you have a property worthy of extensive exploitation, and one which I can commend to the attention of the mining investor. Yours truly, William J. Sutton.[iii]

  The following month Will's comments are used to advertise shares in the company. He was right - there has been significant mining in the area at different periods up to 1967.[iv]
- In 1901 Will was appointed one of the government's special examiners for assayers[v] and later that year he is prospecting in Ladysmith,[vi] near Nainamo.
- In 1903 the *Kootenay Mail* tells us that Will was

  …working up the idea of a college of mines for British Columbia. As matters stand the richest province of the Dominion is without any technical mining institution and we believe it would be to the interest of our mineral industry that Mr. Sutton's

suggestion should be adopted, and a college of mines instituted at Victoria or Vancouver.[vii]

- We know he went on a trip to America in 1903 as he declared the White Horse copper mine there to be the finest he had ever seen.[viii]
- He even visited the tin mines in Cornwall and iron mines in Whitehaven when he was on holiday in England in 1903/04![ix]
- In 1904 he is in Portland, Oregon, where he is taken to see the iron ore deposits:

  We took the Oregon railway and Navigation Company's railroad to Bridal Veil Falls on the Columbia river, 28 miles east of Portland, then walked back on the railroad about 2 ½ miles to near Rooster Rock, where the "ore" occurs in great abundance, forming prominent cliffs 500 feet in height overlooking the railroad and river.[x]

- The same year he was in Ottawa and visited the apatite and mica mines.[xi]
- In 1905 he is back on mainland B.C. this time examining the Nicola coal mine along with James Dunsmuir and others,[xii] remember he had produced a report on the Nicola mines in 1888 when he was government assayer.[xiii]
- Will is near the Skeena river in 1906.[xiv] Later that year he is inspecting mining properties in the Great Central Lake area of Vancouver Island.[xv]
- In 1907 he is sent to look over the Stone Canyon property, presumably the one in California, and later that year he is examining a quartz proposition on the West Coast of Vancouver Island.[xvi]

These are the trips we are aware of, a mere tip of the iceberg.

Canadian Collieries (Dunsmuir) Ltd.

James Dunsmuir sold the Wellington Colliery Company to Canadian Pacific Railway (CPR) in 1910, when it became known as Canadian Collieries (Dunsmuir) Ltd. Will retained his position as geologist for Canadian Collieries until his death in 1914; however, the takeover had implications.[xvii]

Working for James Dunsmuir had given Will privileges and an esteemed position which appears to have been challenged by the new CPR general manager, W.L. Coulson: Will is now under stricter management, having to produce his reports following a particular format.[xviii] One example is the report on the *Quinsam Coalfield*, 1913. Will examined the area between Middle Quinsam Lake and Campbell Lake; the report was still available in 1991.[xix] Quinsam was opened as a coal mine in 1985 and closed in 2016.

Even if the new general manager did not show respect for Will, or was simply letting him know he was now working for a large company with different rules, this was certainly not the case 40 years later when A.F. Buckham, chief geologist in the Exploration Department, wrote, "***Since I have been employed by the Canadian Collieries (Dunsmuir) Limited I have several times had occasion to follow in Sutton's footsteps, and have thereby gained great respect for him. He was a very good man and did excellent work."***[xx] Mr. Buckham even requested a photograph of Will.[xxi]

Photograph Album

At least fifteen of the photographs in Will's album relate to geology.

Six are from the Queen Charlotte Islands (see Chapter Eight):

1. 15310 Island off Frederick Island showing melabasalt resting on limestone;
2. 15311 North Shore of QCI;
3. 15313 Cumshewa Point Granite;
4. 15316 Dike cutting argillites Skedans, Q.C.Island;
5. 15323 Agglomerate Masset Inlet (on Graham Island);
6. 15327 Basaltic Columns Tiahin (?) Point West Coast Graham Island.

Four are from Vancouver Island:

7. 15282b White Stone Point, Saanich Inlet
8. 15286 Granite Porphyry dikes cutting slates, Schooner Cove above Nanoose Harbour
9. 15288 Coal seam, Dove Creek, Comox
10. 15289 Coal seam, Dove Creek, Comox

Two are from Skeena River:

11. 15300 Bornite Mountain from upper end of Kitsilas Canyon, Skeena River, B.C
12. 15324 Bare granite hills, Lower Skeena River BC

And three more from mainland B.C. (see Chapter Eleven):

13. 15303 Noble Five Mine, Cody, B.C.
14. 15304 Noble Five Concentrator & Aerial Tramway
15. 15330 Fontenoy Mine

Unfortunately, it is too costly to include them.

Expert on Vancouver Island

William Fleet Robertson, Provincial Mineralogist, tells us in his memorial to Will that while searching for workable coal Will surveyed parts of Vancouver Island owned by the Wellington Colliery Company,

> ***In this way he mapped geologically the greater part of the island, an extensive and valuable piece of work, but of such a confidential nature that its publication would have been contrary to the interests of the company.***
>
> ***In connection with this work and his personal timber interests, he acquired a knowledge of the geology of Vancouver Island probably more extensive than that possessed by any other person. He was regarded as the authority on the Cretaceous coal-bearing strata of Vancouver Island, and his opinions were often sought by the government departments.***[xxii]

It was not just Canadian government departments who sought Will's advice: in 1905 the Secretary of the American Institute of Mining Engineers, appointed by President Roosevelt to enquire into the operation of American mining laws, contacted Will who recommended that ***"mineral claims should be made in a more systematic fashion – giving their bearings north, south, east and west."***[xxiii]

Later the same year, a group from the Mining Association of New York visited Victoria. Will was not due to speak at the reception but space was quickly made for him to deliver a brief lecture on the resources of Vancouver Island. ***"The lecture was received with marked interest and subsequently elicited numerous technical questions upon points of new interest suggested by Mr. Sutton's remarks***.[xxiv]

Perhaps it is not surprising Americans were interested in Will's opinion given he had taught at the prestigious Michigan School of Mines for five years, had inspected several mines in America and was a member of the Geological Society of America.

Sharing his Knowledge

We know that Will was frustrated at not being able to share his vast knowledge about Vancouver Island so when an opportunity arose to speak on this subject at the City Hall in Victoria on 10th February 1903, Will grasped it. It is a packed house. He began:

> ***I have roamed over this Island, more perhaps than any man living, and in that way know more about it; and it seemed to me that it was hardly right that I should remain silent when the opportunity was presented for me to address the people of Victoria on a subject of this character, especially as I understand this movement is being made for the purpose of bringing out what our Island is like.***

Will then gave an overview of the different geological periods of Vancouver Island; he has a way of drawing his audience in, turning perhaps a dry subject into one of excitement:

> ***But toward the close of the carboniferous period, or possibly at the beginning of the Triassic period, we had a tremendous outburst of volcanic activity. This was perhaps the most intense of any of the volcanic eruptions that ever took place on the face of the planet, I speak geologically. It is difficult to estimate just exactly what the condition was, but we know this much, that immense quantities of ashes and volcanic fragments were thrown***

into the atmosphere, perhaps reaching into the skies ten and fifteen miles, and darkness prevailed over this whole country for hundreds of miles. Millions upon millions of tons of lava were thrown out, during one of the most terrific outbreaks of volcanic activity that perhaps the earth ever felt. It must have shook tremendously the old earth at that time.

He expounds on the rich resources,

…but, so far as we have been able to ascertain, Vancouver Island has probably more mineral to the square inch than any other section of the world. (Applause.)

We have along the east coast a strip of land extending from Cowichan up to Salmon River, which comprises the coal measures. Of course, where there is coal we do not look for any other mineral, but outside of that we find minerals scattered over the whole of the Island. It is true in places it occurs in small amounts, but then we cannot expect to make a mine out of every mineral prospect. That is one of the great bugbears in this country. Some seem to think that every mine must be a million-dollar mine, and if it is not a million-dollar mine they do not want to have anything to do with it. I consider that a million-dollar mine is very often a great detriment to a country. It is gobbled up by some big capitalist, and he alone gets the benefit of it; but when you have an innumerable amount of small mines, why the small man gets more of it.

Will again stresses the need for careful assessment of potential mines,

One thing I wish to emphatically draw to your attention is that there are different sizes of mines; but the promoter, of course, is always endeavouring to make out that his particular mine is the biggest thing on earth, and he will go to work and stock his mine for one million dollars. A few years ago there was hardly a single mine that was not stocked at one million dollars, and everyone who owned a prospect professed that his mine was worth that amount of money. Now, people require to be educated in this respect. We have mineral, and a great deal of it, but we must not look on every prospect as if it were worth a million dollars. Let us husband our resources, and let us go out and do business as a business man should. He does not at first start into a wholesale business. He starts a retail business, and we should do the same way in mining. There is no other industry which will bring forth better returns if handled judicially, than mining.[xxv]

His talk was reported the following day in the local paper and described as "***a treat,"*** at least,

That was the verdict of an audience which filled every seat in the chamber, and left the building with a new comprehension of the stupendous magnitude of the grand resources of Vancouver Island. The meeting was a thoroughly enjoyable and interesting one from start to finish….

Even though *The Colonist* gave a detailed overview of his speech, the full lecture was printed, verbatim, four days later, which is reproduced in Appendix C. Will repeated his lecture the following week in Nanaimo to another large audience.

Manchester Geological Society

In November 1903, whilst on vacation in England, Will delivered a paper entitled *'The Geology and Mining of Vancouver Island,'* to the Geological Society in Manchester. Will began,

> ***Comparatively little is yet known regarding the Geology of Vancouver Island, owing to the mountainous character of the interior, and the dense growth of vegetation, making it almost impenetrable.***
>
> ***It is interesting to note, its geographical position on the north-west coast of America being so very similar to that of the British Isles on the north-west of Europe. The climate is identical, owing to similar meteorological conditions. We have the influence of the Pacific Ocean, with its Japan current, striking our coast line, as you have the Atlantic, with its Gulf Stream, so materially affecting your climate.***
>
> ***We have a large portion of the population, of English birth, who have brought their manners and customs with them, and it may be truly said that there is no place outside of England to-day more characteristically English than the City of Victoria at the present time. So that we might with good reason, like Max O'Rell, speak of Vancouver Island and its people as "John Bull, Jr., and his Island.***

Having given an overview of the geology of the Island, Will emphasised coal and other mineral resources to promote British investment. The full lecture can be found in Appendix D.

Canadian Geological Survey

As part of the Canadian Geological Survey, Will surveyed the central part of the eastern coast of Vancouver Island in July 1909 whilst Mr. Charles H. Clapp surveyed the southern portion of the island.[xxvi]

Will is acknowledged by Charles H. Clapp in his report to the Dominion Parliament on the geological survey of the Nainamo area in 1912:

> ***A large part of the data collected in the district is in the hands of Mr. W.J. Sutton … and he has very kindly co-operated with the writer in the present examination…***
>
> ***Another month was spent underground and in getting data from the mining companies operating in the district. In this work all the operating companies, with one exception, gave the writer very hearty co-operation. Those who co-operated with the Survey are the Canadian Collieries (Dunsmuir) Company, Pacific Coast Coal Mines, and Vancouver-Nanaimo Coal Mining Company. Special acknowledgement is due to Mr. W.J. Sutton, geologist for the Canadian Collieries Company, who very kindly gave the writer much information and assistance and accompanied him in the field several times.***
>
> ***During September and October visits were made to the Comox and the Suquash coal fields, the former visit being made in company of Mr. Sutton….***[xxvii]

Canadian Mining Institute

There can be little doubt that at the beginning of the 20th Century Will Sutton was the most knowledgeable person on the geology of Vancouver Island. His stature in the mining fraternity was recognised when he became chairman of the

Western branch of the Canadian Mining Institute and was elected vice president of the Canadian Mining Institute the year he died.[xxviii]

Unique Collection of Minerals, Rocks and Fossils

Will never stopped exploring or collecting: one of his early discoveries was on Vancouver Island when he was 18 years old with a find of galena on the Koksilah River and a fossil near Cowichan: ***"Cephalopod (a kind of mollusc) belonging to the Ammonite family of the genus turrilites, which has a form unlike other Ammonitids in being a turreted spiral. "***[xxix]

This resulted in a large and unique collection of minerals, rocks and fossils which were carefully labelled and kept in a large room in his home on Discovery Street.[xxx] He was very proud of his collection and regularly invited groups of people to go and see it whereupon he would give impromptu talks.

In an address to the Royal Society of Canada, May 1915, Dr. R.W. Brock, director of the Canadian Geological Survey, said,

> ***In the death of W. J. Sutton, Canada lost one of her most enthusiastic mineralogists. Unbounded was his love for his science which may truly be said to have filled his life. It had been his hope and intention to retire from his professional work, and to devote himself to the large mineralogical and petrographical collection which he had gathered, presenting it to a public institution as the nucleus of a museum, for the instruction and pleasure of his fellow citizens. He possessed much geological and mineralogical knowledge of British Columbia that is new which undoubtedly he would have given to the world had he secured the leisure to prepare it for publication[xxxi].***

In looking over the collection recently, the writer noticed some interesting specimens of minerals not generally known to occur in British Columbia, and some whose occurrence, he believes, have not been recorded. These will be mentioned and such as have not previously been recorded, should be credited to this ardent mineralogist. As the collection numbers about 13,000 specimens, it is highly probable that a careful examination would disclose many other new occurrences.

In fact, at least 35 mineralogical samples had already been accredited to Will in 1915; these are identified in Appendix E. The extra 13 samples referred to by Dr Brock have been added bringing the total to 48 samples. The list gives a tantalising peek into the breadth of Will's knowledge and some of the places on Vancouver Island and British Columbia he visited.

When Will was president of the Natural History Society in 1912 he campaigned for the establishment of a Natural History Museum in Victoria and offered to donate his collection; this was not to be. For several years it looked like the collection might go abroad until 1927 when it was sold to the University of British Columbia. Annie and her sister Kate, with Professor S.J. Schofield, Dr. McKechnie, and Professor T.C. Phemister of the University of British Columbia, as well as Will's old friend, William Fleet Robertson, worked together to successfully transfer the collection to the new university building in Vancouver.

Again we have *the Times* to thank who tell us:

Although generally acknowledged by mineralogists and geologists to be one of the most perfect collection in existence, there are only a few other people aware that a

quaint old family residence on Discovery Street, Victoria, contained such a priceless display of crystals, minerals, earths and precious stones, as that so carefully collected from all quarters of the globe by the late W.J. Sutton, a gentleman of vast experience in this particular branch of scientific research.

As may be inferred from the above remarks, the late Mr. Sutton was a great traveller and it may be remembered acted as geologist for the Dunsmuir interests. In this capacity he visited practically every corner of the world. Many of his much-prized specimens were gathered in Egypt, while others were selected from Mexico, from the farthest points on this continent, from north and south mining districts of Europe, while his collection from various parts of British Columbia will for all time be of the greatest assistance to youthful geologists and scientists of the university whose desire it is to delve further into the bowels of this old earth of ours.

Even to attempt giving an idea of this splendid collection would require a volume, but it may be casually noted that many of his crystals are unique, and it is highly probably that their equal could hardly be found in the museums of the country. While the much-sought precious yellow metal is seen in abundance, the various colorings are particularly pleasing to the eye. Quite a number of golden nuggets, and indeed in all forms, would suggest to the present day prospector a great longing to meet such lucky 'finds,' while the collection of baser metals gives assays almost too good to dream about. [xxxii]

The collection was transported in sixteen large cases of small minerals, each averaging 600 pounds. Each specimen was carefully wrapped in wool and excelsior, and all the cases

heavily crated. There were also some cases of coarse specimens of the heavier metals – the whole weighed about twelve tons. As well as Will's scientific instruments there was also a dozen cases of rare mineralogy books. It was shipped by Canadian Pacific Railway under the personal supervision of Professor T.C. Phemister of the University and William Fleet Robertson.

Will's collection was taken to the Geological Museum at the University of British Columbia, Vancouver, which was founded by Dr. R.W. Brock in 1923.

Fossil Collection

It has been suggested the Fossil Collection was started in 1924 by Dr. Merton Yarwood Williams and began with the purchase of Will's specimens.[xxxiii] Either Will's fossil collection was bought three years before the rest of his collection or the date is wrong and it should be 1927.

The Fossil Collection was exhibited in the Geological Sciences Centre from 1971 until 1995. At some point it was stored on the south campus of the University and transferred to the Beaty Biodiversity Museum when it was opened in 2010. It became part of the holdings of the Pacific Museum of Earth in 2003 but is still exhibited at the Beaty Biodiversity Museum.

Mineral Collection

In 1955 Professor M.Y. Williams, referred to Will's mineral collection as ***"one of our most prized possessions."***[xxxiv] The University of British Columbia Calendar, 30th August 1958 says:

> ***In the study material, the Sutton collection includes over 800 mineral species from 4036 localities. Its thousands of specimens are systematically arranged in readily accessible trays. Many***

trays of rock represent various parts of Canada, Hong Kong and elsewhere.

Originally called *The W.J. Sutton Collection* it was renamed *The Sutton-Thompson Collection* when Professor R.M. Thompson, who looked after the collection, donated 36 specimens and is now housed at the Pacific Museum of Earth on the Vancouver Campus of the University of British Columbia. It is unknown which items from Will's collection are on display but for some considerable time Will's collection was the "***nucleus"*** of the Geological Museum at the University of British Columbia and is still being used for the "***instruction and pleasure of his fellow citizens,"*** over a hundred years after his death which is exactly what Will had wished.

The Sutton-Thompson Collection has been digitised and nearly 5,000 specimens can be found on Flickr:[xxxv] https://www.flickr.com/photos/pmeubc/albums/with/72157713349856403 Now that is IMPRESSIVE!

Here is an example from his collection, it is a photogram of sphalerite (Zn,Fe)S from Joplin Missouri, USA. This is an iron poor resinous variety of this important zinc mineral.

Sphalerite, Thanks to Pacific Museum of Earth

Pacific Museum of Earth, from their website:
http://pme.ubc.ca/exhibits/minerals/

Adam Sedgwick – Kindred Spirit

Not long before Adam Sedgwick died in 1872 he said he hoped, as Woodwardian Professor of Geology at Cambridge University, to achieve three things:

First that I might be enabled to bring together – A collection worthy of the University and illustrative of all the departments of the Science it was my duty to teach.

That a Geological Museum might be built by the University, amply containing its future Collections; and lastly that I might bring together a class of Students who would listen to my teaching, support me by their sympathy and help me by the labour of their hands.[xxxvi]

The similarities with Will Sutton's life are fascinating: as well as making significant collections of geological exhibits, they were both keen on establishing a museum, they both taught and spent their vacations visiting mines and collecting specimens and both gave popular lectures. It is fascinating to think (see Chapter Three) that Will was, indeed, influenced by Adam Sedgewick's legacy.

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[i] It could be there are records about Will's work for the Dunsmuirs in the archives at Nainamo and Columbia but this would necessitate further research, which is not possible at this point in time.

[ii] And to some extent, Will's collection of rocks, minerals and fossils held at the Pacific Museum of Earth, University of British Columbia although these cover his life's work of collecting and not just the last fourteen years of his life.

[iii] The Colonist, 25th November 1900.

[iv] http://www.beyondnootka.com/articles/comstock.html

[v] Canadian Mining Journal, 1901, p.940.

[vi] 9th October 1901, letter from James Dunsmuir to F.W. Sheppard; British Columbia Archives, MS-436, box 166, file 3. James Dunsmuir founded Ladysmith in 1898 to house miners working in his coalfields near Nainamo.

[vii] Kootenay Mail, 3rd July 1903.

[viii] *The Daily Colonist*, 26th August 1903.

[ix] *The Daily Colonist*, 6th May 1904.

[x] So-called "Iron Ore" near Portland, Oregon, *Economic Geology*, J.S. Diller, 1904

[xi] *Daily Colonist*, June 5th 1904.

[xii] Daily Ledger, 16th October 1905.

[xiii] See Chapter Eight.

[xiv] We know this is a work-related trip as he lost a horse which was paid for by Wellington Collieries.

[xv] *The Colonist*, 7th October 1906.

[xvi] BC Archives, MS-436, box 166, file 3.

[xvii] There are only a handful of company records appertaining to Will. A letter from Canadian Collieries dated 17th January 1955 to Dr. Williams of the University of British Columbia states that the passage of time had destroyed any information on Will that the Company may have had. BC Archives, MS-436, box 166, file 3.

[xviii] BC Archives, MS-436, box 166, file 3 includes hand-written notes which suggest the General Manager, W.L. Coulson, imposing a level of management on Will that was not previously there. For example, he insists Will uses another company's report as a blue-print for future reports and on 12/9/10 his note to Will reads, "So as to keep our office records in proper shape, I wish you would kindly make me a written report covering the work under your charge. I would like to have your report covering the situation in the field in detail. This report should commence with the work ending July 9th."

[xix] Quinsam and Chute Creek Coal Deposits, (NTS92F/13, 14), C. Kenyon, C.G. Cathyl-Bickford, G. Hoffman, 1991-93.

[xx] 21st Jan 1955 letter from Mr. A.F. Buckham, Exploration Department to Dr Williams, University of B.C., BC Archives, MS-436, box 166, file 3.

[xxi] In the 1950's Buckham, like Will, examined Quinsam.

[xxii] Memorial of William John Sutton by William Fleet Robertson, *Bulletin of the Geological Society of America*, Volume 27, 1916, editor Joseph Stanley-Brown, requested by Dr. Brock can be found in Appendix F.

[xxiii] The Colonist, 3rd January 1905.

[xxiv] *The Colonist, 2nd July 1905.*

[xxv] *The Colonist*, 15th February 1903.

[xxvi] The Colonist, 9th July 1909.

[xxvii] Sessional Papers of the Parliament of the Dominion of Canada, Volume 19, 1911, p.91.

[xxviii] An obituary appeared in the Canadian Mining Journal, Volume 35, January 1st 1914 to December 31st 1914.

[xxix] 10th October 1877 Daily Colonist

[xxx] In his will it was stated the collection was of no commercial value; RBC archives, GR- 1304 file 5300-1914.

[xxxi] Transactions of the Royal Society of Canada, 1915, p119-120.

[xxxii] *The Times*, Victoria, Jun.2, 1927, p.18.

[xxxiii] http://beatymuseum.ubc.ca/research-2/collections/fossil-collection/

[xxxiv] Letter dated 17th January 1955 from Professor M.Y. Williams, Emeritus Professor, Division of Geology, University of British Columbia, to Canadian Collieries Limited. British Columbia Archives, MS-436, box 66, file 3.

[xxxv] There are 13 cabinets. If you click on a cabinet then click on the first photograph, you can then enlarge it.

[xxxvi] Sedgwick, Adam, Preface. In J.W.Salter. *A catalogue of the collection of Cambrian and Silurian fossils contained in the Geological Museum of the University of Cambridge*, Cambridge, 1873. [as quoted in Speakman, Colin, Adam Sedgwick, Geologist and Dalesman, 2017]