

MANITOBA QUICKLIME AND CEMENT PRODUCTION

Manitoba Quicklime Production

Manitoba's entry into the Canadian Confederation in 1870, followed by the completion through the province in 1881 of the transcontinental Canadian Pacific Railway, ushered in a whole new dynamic to building and construction practices. Thousands and thousands of settlers poured in to take up farms, and towns sprang up throughout southern Manitoba. Construction needs rose dramatically as well, and stone buildings continued to be signs of durability and status. Given the natural concentration of limestone deposits in the province, this new generation of stone construction was fairly easily accomplished. And so quicklime kilns, a well-understood technology by this time, employing all of the traditional structures and approaches noted above, dotted the prairie landscape.

Small Lime Kilns in Manitoba

A review of Manitoba's impressive local histories (available online via the University of Manitoba's "Local History Collection") suggests the nature of this important footnote in our construction history. Just a small sampling gives a sense of the range and nature of this activity, with the observation that the many lime kilns situated on farmsites appear to have been small, seasonal and short-lived, only developed to produce lime for local whitewashing and plastering needs. It is also clear that these operations followed the ancient lime production processes and techniques described above. At Crystal City we have "In 1881 a brick yard ... started east of the Mound [and] beside the brick yard a lime kiln. Mr. Beveridge operated the lime kiln." In the R.M. of Argyle: "The Cooper brothers had a lime kiln on top of Victoria Hill and at Rock Lake the Preston brothers operated a kiln for whitewashing." At St. Lazare "Mr. Cheney Burdett gave [for the construction of a church] the lime from his own kiln on Pumpkin Plains, drawing it fourteen miles with oxen, fording the Assiniboine River on the trip." In Minnedosa: "There was a stone quarry on section 25 in the Saskatchewan Municipality. This stone was shaped for building and loaded on rail cars at Riverdale and shipped through Minnedosa to eastern destinations. In the southwest corner of Willow Grove District there was a lime kiln, owned and operated by John Atkinson. Material from this kiln was also shipped east."

A few other accounts provide more detail about small rural operations. From *Beckoning Hills Revisited*: "There was likely more than one lime kiln in the area. Angus McRuer has described one near his farm. The last to burn lime in this kiln were Thomas Kempthorne in 1899 and John A. McRuer in 1900. This kiln was on a rise of land sloped to the north on the northwest quarter. A hole eight feet deep by ten feet across was made at the top of the slope. A trench three feet wide by thirty feet long was dug, starting at the bottom of the hill, up into the bottom of the big hole. It was like a big clay pipe. The trench acted as a damper. In the fall of 1899, Mr. McRuer looked for enough lime stones from the shore of Lake William to make the amount of lime he needed. He pried loose the rocks and put small stones under one side. This left the stones loose for hauling in the winter. He also drew the wood out of the bush to season for fuel for the burning. As he drew the stones to the site, they were placed in the bottom of the kiln so that an arch was left from the trench to the back of the main hole. This arch

had to be three feet high and two and a half feet wide. After the arch was completed, it was filled to the top of the hole with the lime stones. The



Fred Klimchuk and Sam Kisiow breaking limestone by hand for burning in a lime kiln (From *They Stopped at a Good Place*).

arch had to be well built since the fuel had to be fed in through the trench right back to the far side of the hole. Once the fire was built, it had to be fired continuously for three days and three nights. When a blue flame came through the stones, this was a sign that the lime would slack when cooled-off." And from *The Darlingford Saga*: "The Pembina ridge was amply supplied with limestone on the high land, often found in large slabs, some four feet across. These stones were gathered and thrown into a kiln to be burned. The kiln was usually a twelve-foot [diameter] hole about fifteen feet deep, dug into a steep bank so that a tunnel at the bottom formed the fire box, while the smoke and heat travelled up through the carefully placed stones. Wood by the load was used for fuel and the fire had to be tended day and night for six to eight days. A week later the whole mass had cooled off. The owner would dig out the pure white lime to be sold for roughly 50 cents a grain bag. Hundreds of tons of this lime were produced across the west in the early days."

While many of these lime operations were only for whitewashing, a few pioneer kilns were certainly for the production of mortar for masonry building projects. Some of special note were in or near the Town of Birtle, northwest of Minnedosa, and at least two of that community's local histories mention that legacy. From *Our Ancestors Arrive in Manitoba*: "John Shepherd and his sons operated a lime kiln in the early days, and did a big business." And from *Passing It On*: "A lime kiln was a necessity to provide lime. Tons of boulders were strewn over the valley and in the riverbed, ready for use. The homestead of H.B. Hartley, on the west side of the Birdtail across from St. James had two lime kilns whose remains are still visible." Most significantly, there are still remnants of one of the old lime kiln sites in Birtle. Recognized by the town as a heritage site, "The Birtle Lime Kiln Site" is noted as "an important, and now rare, reminder of the kind of pioneer industrial and manufacturing activity required in the construction of buildings. It was here that the lime used for the production of mortar was produced by burning limestone; the mortar produced here was used in the construction of nearly every foundation in town and in all the masonry buildings as well."

It is clear that small lime kilns dotted the prairie landscape across southern Manitoba, where available limestone deposits could be exploited. But the greatest concentration of these kinds of minor operations was focused in the Interlake region north and east of Winnipeg, where a major bed of limestone stretches for miles in every direction. Local histories for this region—the Rockwood-Stonewall-Stony Mountain-Garson area—usually provide the same kind of observations seen above in other locales, and so only some of the more revealing recollections are featured here.

From *Tyndall Manitoba, 1893-1993*: "The Tyndall area was fortunate to have an abundance of limestone on the surface. Soon lime kilns were built throughout the district in various sizes and shapes, generally in a circular form inside which the lime rock was piled. Undemeath the stone was a fire box. I used to go at night to see it—it was real pretty" said Ruby Pearson." From *100 Years of History. Rockwood Municipality*: "As a young lad at the outbreak of World War I, I was intrigued by our neighbour's ingenuity in building homemade lime kilns and hauling the lime to Teulon, where David Wood, a prominent merchant of that day, paid one cent a pound for the product." And: "Perry Harcus, Sandy

McMillan and Robert Bell had what were known as pot kilns on their respective farms. They burned limestone and hauled it to Winnipeg. Some of it was used for the first City Hall."



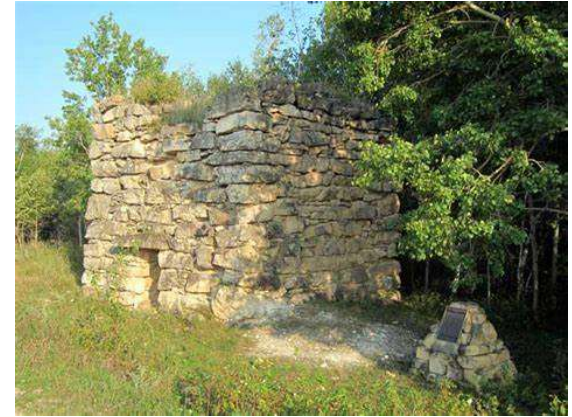
Contemporary view of the Birtle Lime Kiln, showing the face of the kiln, built up with granite fieldstones, which would have sheltered a depression behind it and set into the hillock. The granite stones presumably could withstand the heat of the fires consuming the limestone chunks in the kiln.

Large Lime Kiln Operations in Manitoba

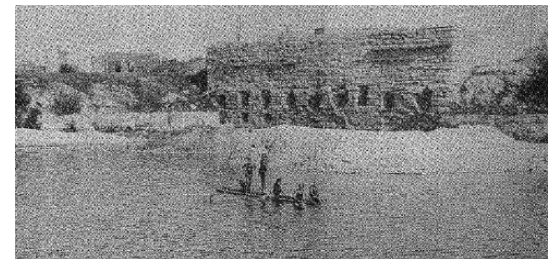
As suggested above, it was in the Interlake region that lime kilns truly proliferated, and where larger lime-kiln operations were located. And it was here that some operations gained nearly industrial capacity – thus not just for local use, but for sale and distribution via larger enterprises to major centres, although still mostly in Manitoba. These kilns also attained considerable sizes, like their earlier counterparts in Europe and eastern North America – as substantial pot kilns or tall shaft or tower kilns. (Note that the major site of lime production in Manitoba, at Stonewall, is featured separately, in the next section.)

To begin, we find this reference from *Taming a Wilderness. A History of Ashern and District*, in which there are several references to a lime kiln at Spearhill, including these: "Before the house was completed, lime was needed for the plaster. The only thing to do was burn their own lime, so they built a lime kiln. The farmers co-operated and built a kiln. They took turns in keeping the fire going both day and night. At last the lime was ready and each settler got his share." And: "Dad had a box factory and saw-mill. Later on he built a lime kiln. The lime he burned there was used for mortar in many basements and foundations all the way from Oakpoint to Gypsumville." This region (now known as West Interlake) also features important remnants of a once-thriving quicklime operation that was established on a site called Rosehill. This operation was inaugurated in 1896 by brothers James and Robert Young, ultimately forming the Manitoba Union Mining Company in 1902. There were as many as 12 kilns operating here to produce lime, which was bagged and shipped by steamboat-drawn barges to The Landing at the southwestern end of Lake Manitoba. The company ultimately abandoned the Rosehill kilns, although local settlers continued to use them occasionally to make lime.

Several other Interlake sites combined limestone quarrying with quicklime production. From *100 Years of History. Rockwood Municipality*: "The first quarry in the Gunton area was operated in 1905 by Enoch Williams & Sons on the west side of the CPR track. By 1906, John Gunn purchased the John Devlin property on the east side of the tracks and put in a full line of quarry equipment. Also in this year, Enoch Williams & Company installed a stone crusher and steam plant on their property. The quarries produced crushed stone, building stone and lime. At times, 300 to 500 men were employed. By 1914, some of the quarries were no longer in operation and lime was produced in one set of kilns. In 1916, Manitoba Quarries Limited operated the three quarries from which large quantities of stone had been removed. By 1927, all quarries, which were in operation around 1917, had ceased operation. By 1944, Gillis Quarries Limited held the quarry, and a stone [lime] kiln was constructed, which was charged by a stiff-leg derrick which dumped directly into the top of the kiln. The kiln was capable of producing 14 tons of lime a day with wood fuel." The Gillis Quarry operation, at Garson, which is best known today as the source of Manitoba's famous Tyndall stone, did not let the abundant limestone debris at the site go to waste, and a large pot-styled lime kiln was an early addition to the operation. That technology appears to have been updated with the construction of two stone shaft kilns and two pot kilns topped with steel cylinders, although none of these have been active for many years.



One of the Rosehill quicklime kilns in the R.M. of West Interlake. Note the little commemorative cairn at the lower right, honouring the Young family, which turned over the property to the municipality in 1952.



Pot kiln structure at the Garson Quarry (From *They Stopped at a Good Place*).

Two other Interlake-area sites feature extant remains of lime kilns, and in their survival we can see the evolution of the technology through to the middle decades of the twentieth century. The first is a site near Oak Point Quarry in the R.M. of Coldwell (northwest of Winnipeg). The following information has been adapted from an entry on the Canadian Register of Historic Sites: “The Oak Point Quarry, incorporating an excavation pit, massive concrete storage structure and kiln remnants, specialized in making slaked lime through a burning process that entailed use of 23-metre-high wood-fired kilns loaded with crushed stone by crane from the top. This complex, served by a Canadian Northern Railway spur, also held a huge concrete storage structure, the remains of which are now visually dominant, and various ancillary facilities and equipment. Established in 1912 by the David Bowman Coal and Supply Co. of Winnipeg, the quarry provided needed local employment for a decade before contraction of the building industry led to its closure.” Another notable site is near Inwood (in the R.M. of Armstrong), with the following information adapted from an entry on the Manitoba Historical Society website: “A [quicklime] site near Inwood was established by Building Products and Coal Limited, founded at Winnipeg in 1919. That company manufactured lime for the construction industry, and its exploration for appropriate limestone deposits led them to this area in 1940. A small kiln was constructed to test the suitability of the local limestone for manufacturing lime. The rock proved satisfactory, and two larger kilns were built between 1941 and 1942. Heat to run the kilns was provided initially by coal and later by locally-cut cordwood. Being next to the CNR Inwood Subdivision railway line enabled the delivery of fuel and the shipping of finished product to Winnipeg. The quarry and kiln operation employed up to 30 men. The plant was badly damaged by a fire in late 1958, but it was rebuilt and continued in operation until closing in the fall of 1966, or early in 1967. Eventually, all removable parts were taken out, but the concrete structure still stands.”

While all of these quicklime operations have been long-closed, and most have even disappeared from the landscape, Manitoba still has one significant lime production facility, in the Interlake region of course, and near a small community called Faulkner (near Steep Rock). The Graymont plant is a major industrial operation, featuring a large rotary kiln that, according to the company website “can produce both high-calcium quicklime and dolomitic lime. The kiln is fired with pulverized coal. Seven silos provide storage for pebbled, pulverized and crushed quicklime or dolomitic lime. In addition to quicklime production, the plant also produces calcium carbonate [an important ingredient in many industrial, dietary, agricultural and environmental applications].”



In recent years, lime was produced at the Gillis Quarry at Garson in two large stone shaft kilns and two smaller pot kilns, with steel tube chimneys (Manitoba Historical Society).



Storage structure at Oak Point Quarry, developed by the David Bowman Coal and Supply Company in 1912. This old quarry and lime-kiln operation was designated as a Municipal Heritage Site in 2009.

Stonewall Quicklime Operation

As noted in the previous section, the largest and most productive quicklime operation in Manitoba was located in Stonewall – in fact mostly within the very limits of the community, at its northeast edge. The following several useful accounts describe the history and operations of the various plants over the years. Most of this information is from *Stonewall. Turning a Century. 1878-1978* (Ed. Mervin E. Farmer, 1978), with a focus on operations that dealt with lime, often in addition to limestone. Some additional text is from the Manitoba Historical Society entry for Stonewall Kilns.

"The quarries, for many years, were the major industries in Stonewall. The beds of Ordovician-era limestone surrounding the town to the north and east gave promise of commercial opportunity and were quarried from the beginning of Stonewall until 1968. With the opening of western provinces to settlement, a great building boom created a demand for stone and lime for buildings and roads. The economic prosperity of the West in the building and contracting trades was reflected in the Stonewall quarries. The coming of the railways in 1880 aided these booms by carrying the supplies to a demanding and increasing market.

"A.H. Clarke and Sons were among those making early shipments of stone and lime to various parts of Manitoba and out west. John Gunn began quarrying operations at the southeast corner of Stonewall in 1880. Enoch Williams arrived at Stonewall in 1882 and teamed up with his brother Joseph to open a quarry in the northeast corner of Stonewall. They later began another quarry to the west across what is known today as Provincial Road 236. Both Williams and Gunn operated quarries at Gunton and the latter at Stony Mountain as well. Major Bowles was also an early quarry operator who shipped out many carloads of stone and lime. In the winter of 1884, he employed 36 stone cutters and 25 quarry men. He later teamed up with John Gunn to form Bowles, Gunn and Co.

"The first two pot kilns were built in the late 1880s by the Williams Bros. John Gunn built his kiln in 1900 and the last of the kilns were built in 1917. The kilns, 40 to 50 feet in height, were built of large blocks of limestone and lined with fire brick. The huge furnaces at the bottom of these kilns were fueled with wood in the early years and later with coal. Limestone chunks were dumped into the top of the kilns. Iron rods kept the rock up while heat melted it into lime, drawn out at the bottom. Every three hours or so, 25 or 30 wheelbarrows of lime were drawn and dumped into a box car lined with cold lime. The whole process took about 36 hours. Each kiln produced about 15 tons of lime per day. The lime was measured in bushels, a bushel weighing about 65 pounds. A cord of limestone (the same as a cord of wood) weighed 6.4 tons.

"In 1920, F.J. Pearson was manager of the Stonewall Quarries, receiving a salary of \$175.00 per month. Labourers in 1920 were paid 34 ¼ cents per hour. Lime was worth about \$8.00 a ton at that time. Many men coming to Manitoba secured their first employment in the Stonewall quarries. In 1910, there was



Views of the first Stonewall pot kilns of the Enoch and Joseph Williams operation – at top in operation and below in their current condition in the Stonewall Quarry Park (Stonewall. Turning a Century. 1878-1978).

a heavy influx of out-of-province labour. With the boom period that occurred, the number employed rose to a relatively high count, that fell to a low level when business slumped. After 1968 the kilns stood idle. The sound, sight and smell of Stonewall changed. The kilns had meant livelihood for many families, especially during the Depression [of the 1930s]."

The following entries are from the Manitoba Historical Society: "While ordinary building stone was taken in the early years of settlement, the more significant aspect of the Stonewall trade was to be the high-quality quicklime produced in the kilns by burning limestone. The whiteness of this product placed it in demand for use in plasters. During the quarries' first few years of operation workers used pot kilns to cook the limestone into powder. The pot kilns were like large fire pits and were very inefficient. However in the early nineteen-hundreds the pot kilns were replaced by draw kilns, some of which are still standing today. Where the pot kilns were like fire pits, the draw kilns were like giant ovens that could cook and dispense quicklime around the clock. The quarries continued to thrive for over seventy years until the nineteen-sixties when traces of iron began to be found within the lower levels of limestone. The iron-contaminated limestone could not produce good quality lime powder and even caused little miniature explosions in the kilns. Eventually this would lead to the quarries' closure."

This kiln, located in the Gunn Quarry, was first fired in May, 1900. The trestle, on which cars of rock were drawn up, was built by Andrew Mitchell. It is possible to make out the extended handle on the cart, and thus presume the action of a winch to pull the cart up to the kiln top (Stonewall. Turning a Century. 1878-1978).





Left, top: A steam excavator was used to clear the overburden from the limestone rock (Stonewall. Turning a Century. 1878-1978).

Below: Three kilns stand today in the northwest corner of the now defunct quarry at the north end of Main Street. Descriptions noted above suggest there were once five kilns on the site (Stonewall. Turning a Century. 1878-1978).



Manitoba Cement Production

The first concrete production in Manitoba, in 1879, by the Winnipeg Pottery and Cement Tile Works in Winnipeg, relied on imported Portland cement, using local gravel, sand and water as the other components. And while there were undoubtedly ongoing calls for local entrepreneurs to take up the task of producing locally-sourced cement, it would take 20 years before activity on this front took hold.

As noted above, there are actually two options for cement production – natural, via a type of limestone known as clayey marl (more technically calcareous shale), which is simply mined and burnt with no further additions; and Portland and other “artificial” cements, which by contrast are produced from a man-made mixture of pure limestone, silicates and clays that resemble the chemical composition of marls. The main challenge with producing natural cement is obviously locating the necessary source of clayey marl, with lesser challenges involving the financing and expertise required to build chimney kilns and operate grinding facilities. The primary challenge with Portland cement production in Manitoba was not in locating the pure limestone, which is abundant in the province – it was financial and technological; requiring substantial investments in sophisticated kiln technologies and then expertise in mixing and grinding processes to produce a high-quality final product.

Also as noted above, at this time in North America—that is the late 1800s—natural cement was just as popular as Portland cement, which was the predominant product in Europe. And so any substantial local deposits of clayey marl would have been immediately recognized as a prize for local exploitation. By the early decades of the 20th century, however, Portland cement, which produces stronger concrete, and which also hardens more quickly than natural cement underwater, was the only real cement available.

The Arnold Cement Works

With this background in mind, we finally meet, in the summer of 1899, a group of investors, mostly Americans, who incorporated the Manitoba Union Mining Company Limited, to exploit a natural cement mine which they began to develop the following year at Arnold. This was a place about four miles west of Miami near Deerwood on NE 16-5-7W on the farm of John Spear (other sources note a Mrs. Ticknor). The cement vein had supposedly been discovered in 1898. Financing was handled through share sales in the spring of 1900 and by late May men were preparing the foundations of the plant with its machinery arriving by mid-August. A small village arose near the mine and was given the name Arnold by company officials. By April 1901, the plant had shipped its first carload of cement, followed by four more two months later. A complete description of the plant and its operations was to appear in an obviously-proud *Miami Despatch* at the end of June 1901. According to the local history (*Miami and R.M of Thompson Chronicles*), this mine’s product went into some area buildings, both as poured concrete and as concrete blocks. It supposedly operated until 1908, though Manitoba Union Mining was still making returns to the Provincial Secretary as late as the end of 1910.



A view of the Arnold Cement Mine works, operational from 1901-1908/1910. (Courtesy Miami and R.M of Thompson Chronicles) Co-ordinating the information in this image with the description in the Miami Despatch suggests this operation: Raw cement was taken from the mine at the bottom of the ravine into one of the smaller buildings in the foreground, and then via a conveyor to the “tower” which surrounded the vertical kiln – where it was dumped. Wood or coal was brought via the elevated conveyor running from the track to the top of the kiln. The resulting clinker was taken out of the bottom of the kiln and moved via track, likely to the large building (called the grinding room) in the mid-foreground; the track and trucks are not visible as this aspect of the operation was situated behind these buildings. From there, material was moved up another conveyor to the building at the top of the ravine, where it was allowed to cool, and finally put into sacks or barrels to await shipment. It is presumed that the Arnold operation was seasonal – that is, not active during winter months.

There were actually several salient articles from the *Miami Despatch* that dealt with the cement mine at Arnold, the first from June 1901: “The high cost of building materials had always been a serious drawback to the prosperity of this province. It was felt that the cost was excessive, and many under ordinary conditions would have erected substantial farm buildings and town residences found the cost almost prohibitive; cement had to be shipped to Manitoba from the east at prices almost beyond reach. In about 1898, in a ravine along the escarpment, northwest of Miami, a deposit of shale was uncovered when the bottom of the ravine was being lowered for drainage. The peculiar character of the shale or rock was brought to the attention of J.R. Spear, supervisor of the Northern Pacific and Manitoba Railways who had specimens tested and established the fact that cement could be manufactured from the material. A company with W.G. Vanderslice, superintendent of N.P.& M. Lines as president and J.R. Spear as secretary, and a board of directors including several well-known financiers in the province, was formed. Further prospecting indicated the extent and value of the cement deposit. The necessary buildings were erected and a first-class plant secured.

This plant, known as the Arnold Cement Mine was the first natural cement mine in existence in Western Canada. It was located one-and-one-half miles east of Deerwood Siding on the NE 16-5-7W. This quarter was homesteaded by John R. Spear in 1893, taken over by the Manitoba Union Mining Company from 1900 until 1908 and returned back to John Spear's ownership."

It was reported in the May 31, 1901 issue of the *Miami Despatch* that with George McCallum as mine overseer, a carload of cement a day was being shipped from the Arnold mine. It was reported in June of that year that "four carloads of cement were shipped by Manitoba Union Mining Company last week and every effort is made to catch up with the orders, for at present, the demand is considerably ahead of supply." The price per barrel picked up at the mine was \$2. It was reported in the May 16 issue of the *Despatch* that "the discovery of coal in the vicinity of Altamont, should the deposit prove valuable, will add considerably to the interest taken in this district. With unlimited coal, cement, wood and brick clay the manufacturing possibilities are quite extensive. An iron mine is now desirable."

The local history, *Miami and R.M of Thompson Chronicles*, also contains important descriptions of the operation: "At the Arnold Cement works, the shale was found as horizontal beds about twenty feet thick. It was obtained by tunnelling into the bottom of the hill and was delivered by wheel barrow to an inclined bucket elevator which carried the clay up to the feeding floor of the vertical kiln. Remains of these buckets were found in 1966. The kiln was of the vertical up-draft type, a vertical shaft in a cylindrical shape, open at the top with a charging floor for the clay and the fuel. These were drawn into an inverted cone at the bottom where the clinkers, more or less perfectly burned, were drawn out, sorted and dumped into cars beneath, that carried them to the grinding room. The kiln at Arnold was made of boiler plate lined with fire brick with the charging floor on a level with the railway track and spur line. In 1905 this plant was using lignite coal for fuel whereas most other mines used bituminous coal. Some local people who remembered the mine said that the mine burned wood before it burned coal. The clinkers were then ground or pulverized by passing through a stone crusher to reduce the clinkers to pea size. It was elevated once more to a pulverizer similar in action to a mortar and pestle which consisted of rollers rotating at 600 revolutions per minute. After passing through the roller-mill, the cement was "bolted" through a 2,500 mesh-per-square-inch metal screen. Then the finished product was conveyed to the warehouse to cool, after which it was put into sacks or barrels to await shipment. The Arnold Mine was in operation for over five years. A cement sample was found at the old mine site in 1966. The J. Walter Wells report favoured the operation and suggested that Arnold could be the testing ground for other samples of clay found in Manitoba. From an unpublished report by A. McLean in 1915, we find that the writer submitted this opinion - "Although the plant was abandoned, its failure was probably due to some factor other than the impossibility of turning out a good product."

The history continues: "Four different out-croppings of this cement were found around the Arnold mine site and also around Deerwood Siding. The cement was recommended for use in rough plastering, mortar for stone work and brick in place of lime. Cement for floors, walls and foundations as well as sidewalks were a recommended use. Mr. Tom Whiter of Miami manufactured Hollow Block cement blocks from the Arnold product."

The Manitoba Cement Company

A more spectacularly-promoted, though unsuccessful venture, was the Manitoba Cement Company, incorporated by a special or private act of the Manitoba Legislature in June 1900. This was meant to work a natural out-cropping of cement about 16 miles south of Morden on the bank of the Pembina River where it crossed the International Boundary. Its promoters were an all-star cast of Winnipeg business leaders, including William Whyte; William Blackwood, J.A.M. Aikins and A.M. Nanton. Tests on what was termed "1-6 Cement" (the site was on S½ 4-1-6W) showed splendid materials, and various newspapers (*Morden Chronicle*, *Morden Empire*, *Manitoba Free Press*) presented numerous articles promoting the project. Share sales took place over the next couple of years, even attracting English investors. The firm began surveying a rail line south from Morden in 1902, and bold predictions were made for the projected eight-acre plant which was shown in a company prospectus in January 1903. Two interesting sidebars featured in the January 17, 1903 promotional piece in the *Manitoba Free Press* are worth noting:

"Objects of the Company

The Manitoba Cement Company has secured incorporation for the purpose of manufacturing a high-grade Portland Cement. It owns one of the most valuable cement deposits in Canada, located south of Morden. The raw material has been thoroughly analysed by the highest authorities on cement and pronounced by them suitable for the manufacture of a superior quality of Portland Cement. When the plans shall have been completed the company will own material sufficient for at least 200,000 barrels of cement, and a mill capable of converting this material into cement of the highest grade, and by reason of its position and open market in the west, can without question manufacture and market its product at a maximum profit."

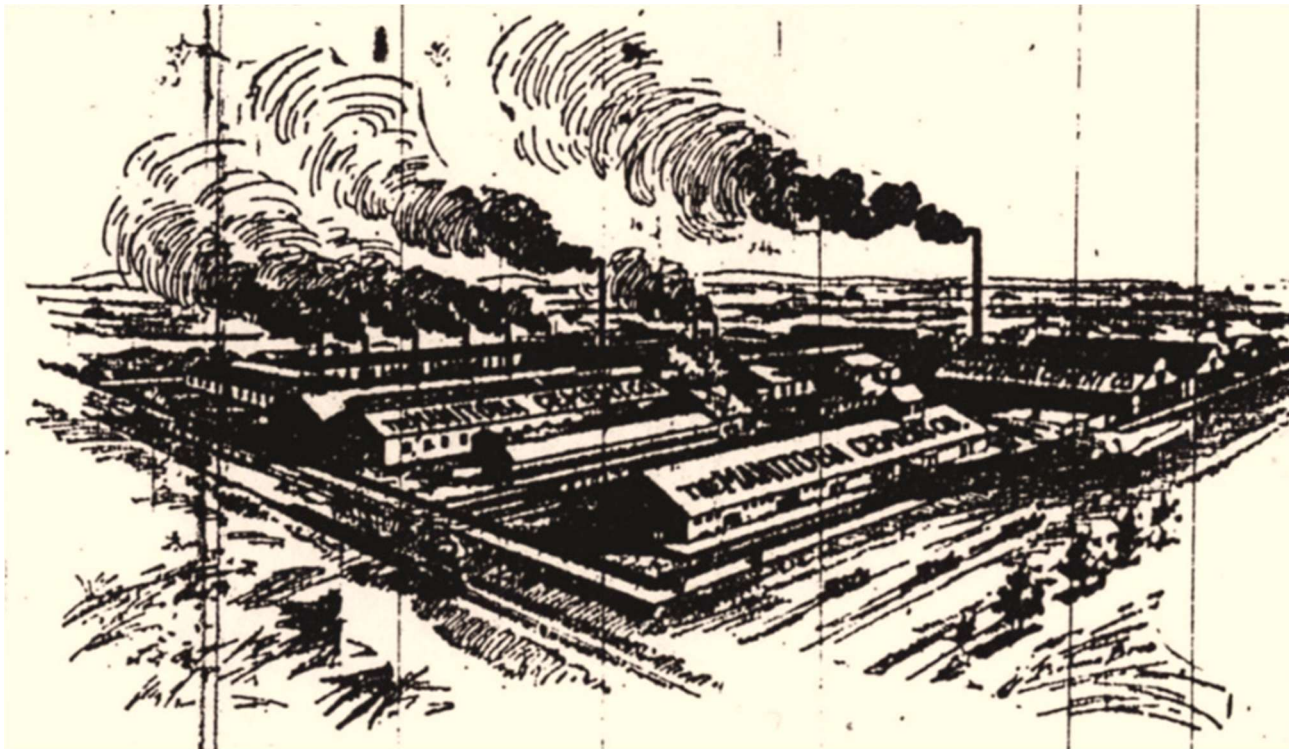
"Use of Cement

Cement is used in the construction of all the best buildings for foundations and walls. Hollow cement building blocks are much cheaper and stronger than brick or stone. Cement sidewalks, bridge abutments, fence posts, fireproof vaults, cisterns, elevators, pipe mains, etc., are universally adopted now. It is estimated that the Nicaraguan Canal [Panama Canal] will require 30,000,000 barrels of cement. Manitoba and the Territories will require 350,000 barrels in 1904 in the erection of the St. Andrew's Locks and other water powers, dams, sidewalks, foundations for buildings, houses, barns, etc. The demand for cement in the west is increasing so rapidly that it cannot be secured in sufficient quantities to meet the requirements."

Over the next two years, the hopes of Morden-area residents rose and fell with each new announcement of pending construction, and then an inevitable hiatus. By Victoria Day 1904, local residents were seen launching a burlesque of the enterprise in their local parade, suggesting a certain fatigue with the promises. A visit by Lieutenant-Governor McMillan in company with important Canadian Pacific Railway (CPR) officials such as William Whyte and Cement Company officers in September produced the now-familiar notice that the plant was proceeding immediately. It did not, and this final gesture was the last, with the spectacular promise never heard of again.

The failure of the plant project could possibly be linked to delays by the CPR in constructing the all-important spur track to “1-6”, but also to difficulties with a promoter, E.G. Jaffray, who had rescinded all contracts with the cement group. But it is also possible that there was ongoing confusion about what was actually being proposed: a natural cement operation (as suggested by the focus on a natural out-cropping of cement about 16 miles south of Morden (not unreasonable given fairly nearby sources near Miami and Carman to the north), or as the article clearly states: Portland cement. It could be that potential investors looking more closely at the proposal were not convinced of the project’s viability.

An image seen in the Manitoba Free Press from January 17, 1903 showing what was to be a major cement-manufacturing operation just south of Morden – a project that never came to fruition.



Commercial Cement Company

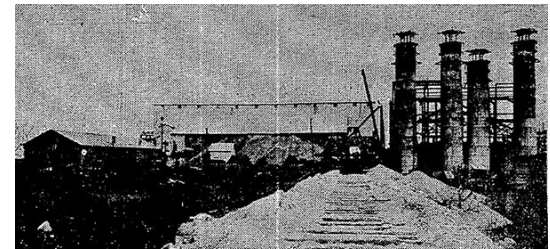
Given that this operation is the ultimate subject of this project, to be explored in considerable detail in the next section, we only note here that, like the facility at Arnold, it also manufactured natural cement. It was located west of Roseisle and Carman. The factory was established in 1907 through the efforts of W.P. Alsip and Otto Babcock. Mr. Alsip was President of Alsip's Building Products and Services, a dominant operation in Manitoba's booming construction industry at the time. And the Commercial Cement Company was an important part of the Alsip's masonry "empire" in Manitoba – with five brickyards located throughout the province and a retail/warehouse operation in Winnipeg that provided a range of other masonry products. Otto Babcock had experience with natural cement operations, acting as general manager for several years at the Pembina Portland Cement Company near a town called Concrete in North Dakota – about 30 miles south of the Canadian border. The Commercial Cement Company was a large operation, for its day, and productive, with estimates suggesting at least 7.5 million cubic feet of natural cement generated over the course of 17 years, before closing in 1924.

Winnipeg Portland Cement Operations

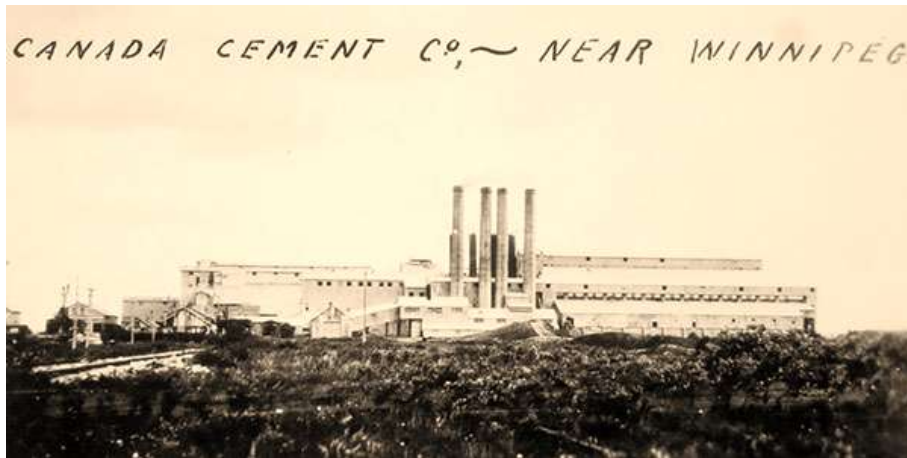
The history of Portland cement production in Manitoba stretches nearly 80 years (1913-1992), at two key operational sites, and at various important material-feeder locations. The two major sites were both in Winnipeg (and both, interestingly within a mile of each other along what is now called Kenaston Boulevard – one behind the current IKEA outlet and the other further south just north of McGillivray Boulevard). The following information on the development of Manitoba's Portland cement facilities is taken from the Manitoba Historical Society website.

Canada Cement Company

"In 1911, the new Canada Cement Company, formed from the amalgamation of ten smaller companies, began construction of a major manufacturing plant in south Winnipeg. Its purpose was to use materials quarried at sites around Manitoba to make Portland cement. The site was chosen due to large deposits of suitable clay immediately west of the plant that were quarried over time, forming five large pits up to 60 feet deep. Other cement ingredients were quarried elsewhere in Manitoba and transported to the plant. High-calcium limestone was quarried at Steep Rock and a smaller quarry at Lily Bay. Silica sand came from a quarry at Beausejour operated by the Alsip Brick, Tile and Lumber Company. Gypsum came from a quarry at Gypsumville, underground mines at Amaranth (west side of Lake Manitoba) or Silver Plains (south of Winnipeg), or a quarry at Harcus (on the west side of Lake Manitoba). Iron oxide came from Ontario.



View of the Canada Cement Plant from 1913. (Manitoba Free Press, 26 April 1913) Note the four tall kilns with their interesting extended roof coverings – to protect materials inside but also to allow a good draught within the kilns.



Canada Cement Plant in 1927. (Archives of Manitoba) By this date the operation had been transformed, with new chimney stacks and the addition in huge buildings of new rotary kilns.



Aerial view of the Canada Cement Plant in 1956. (Archives of Manitoba)

“The cement plant, which employed 85 to 100 people at its height, was built at a cost of \$3,000,000 and the original buildings included a rock and clay storage building (measuring 200 feet by 600 feet), a dryer building and kiln (70 feet by 300 feet), a raw grinding mill (100 feet by 150 feet), a machine shop and storehouse (36 feet by 135 feet), a clinker storage building (70 feet by 198 feet), a clinker grinding mill (60 feet by 166 feet), two stock houses (120 feet by 200 feet), a three-storey office building (30 feet by 42 feet), a bagging building (50 feet by 150 feet), a packing building (50 feet by 150 feet), and a coal grinding mill (50 feet by 50 feet). The plant became operational in April 1913 with electricity provided by an on-site Winnipeg Electric Company substation.

“Retrofitted between 1927 and 1928 to use a different manufacturing process, the plant then consisted of two 287-foot, gas-fueled kilns, each ten feet in diameter to fire the ingredients at temperatures up to 2900 °F (1600 °C). In 1955, the plant was expanded to permit the construction of two 450-foot tall, twelve-foot diameter kilns, the first that year and the second in 1964. Between 1957 and 1972, the facility produced an annual average of 445,000 tons of finished cement.

In May 1970, the company became Canada Cement Lafarge Limited after it was purchased by a French cement firm. Over time, the spent quarries filled with water to become lakes now forming part of Fort Whyte Alive. From 1965 to 1992, output from the active clay quarry was also sold to Inland Cement for the production of cement at its nearby plant. In 1987, the cement plant closed and quarrying of local clay ceased. The site is now used as a transport distribution hub.”

Inland Cement

“The final entry into the province’s cement-production industry was initially bound up in some intense competition between two competing firms, one being BACM (British-American Construction and Materials Limited) Limited, founded in 1961 by four Simkin brothers to amalgamate their 31 companies into one large entity, based in Winnipeg. The Simkins purchased a site in north Winnipeg along Sturgeon Road, and undertook some modest work there, and in 1963 announced plans to build an \$8.5 million cement-manufacturing plant, using limestone quarried at Steep Rock and Lily Bay with locally-dug clay. The Simkin announcement came just a month after another firm, Inland Cement, announced similar plans for its own \$8 million plant in Winnipeg. Industry analysts observed that the addition of these two new plants would produce almost triple the amount of cement required by Manitoba’s entire construction industry, and when the dust had finally settled, Inland bought the BACM site, and undertook to construct its major operation on Kenaston Boulevard. Built at a cost of \$16 million, the plant became operational in September of 1965. High-calcium limestone and gypsum, quarried elsewhere in Manitoba, along with clay excavated from a pit immediately west of the site or from nearby pits of the Canada Cement Company, was mixed and fired in the kilns. The initial annual production was estimated at 8,000,000 sacks of cement to supply an area from Thunder Bay (Ontario) to central British Columbia. By the early 1990s, due to the effects of recession in the construction industry, the demand for Portland cement had greatly decreased. Local grinding of clinker ended in 1992 and the last production of cement occurred in 1994. At this time, the plant was shut down, along with a counterpart in Regina, and manufacturing was consolidated at the company’s facility in Edmonton.”



Aerial view of the former Inland Cement plant, as seen in 2017 (Manitoba Historical Society).



Steep Rock today is better known as a picturesque tourist destination, renowned for its limestone cliffs and rock formations. But it was also from 1913 to 1992 a major quarry, producing high-calcium limestone used in the production of Portland cement by the Canada Cement Company and Inland Cement, both in Winnipeg. By 1971 the quarry (above) was about a kilometre wide, a little more than that in length, and about 10 to 12 metres deep. The site still features an old locomotive and steam shovel (below) used in the operations, as well as a plaque put up by the Portland Cement Association of Manitoba describing the activity here (Manitoba Historical Society).