Just A. Ferronut's

Railway Archaeology

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Railways of northern Qu£bec (Part 2)

Last month, we covered the development of the Quebec and Lake St. John Railway north to Chambord and the railways in the Saguenay River valley around the eastern end of Lac Saint-Jean and downriver to the Baie des Ha! Ha!. We left off on the westward railway march with the Q&LSJ reaching Roberval, 13.32 miles west of Chambord.

This month, there is one more branch of the Q&LSJ we should look at, and an independent tramway that connected with the Q&LSJ. After that, we'll look at the railway around the western end of Lac Saint-Jean. Finally this month, we'll return south and head west on the National Transcontinental Railway.

Next month, to complete this review, we will look at the construction of the various Canadian National resource lines, as well as the Temiskaming and Northern Ontario Railway's sojourn into Qu9bec.

Qu9bec and Lake St. John Railway (Q&LSJ)
Linton to La Tuque (abandoned)

This was a short-lived 39.6-mile line that extended from Linton (Linton Jct.), 22 miles north of RiviTre-B-Pierre, to La Tuque. The line was opened on November 23, 1907, just as the National Transcontinental Railway construction was getting in full swing in the area of La Tuque. Records show that construction supplies for the NTR were ferried over this line into La Tuque.

In addition, it should be noted that the proposed NTR line was shown on some Canadian Northern maps as a ``great circle" line extending from Linton through La Tuque to Cochrane and Superior Jct. (Sioux Lookout, Ontario). From these maps, and noting the timing of Mackenzie and Mann buying into the Qu9bec and Lake St. John, one must wonder if they were hoping to have the Q&LSJ form part of the National Transcontinental route. However, from railway engineering and operating perspectives, the design and construction standards of the two railways were so different that the Canadian Northern's lines would have needed to be almost totally rebuilt to meet the government standards used on the NTR.

The line from Linton was operated by the

Canadian Northern as their La Tuque Subdivision and known in Canadian National's days as the Linton Subdivision. It crossed the NTR a couple of miles south of La Tuque and entered the community on the west side of the NTR. This line, like the remainder of the Q&LSJ came under the operating control of the new Canadian National Railways on January 1, 1919, following the financial collapse of the Canadian Northern.

The CNR discontinued operation over the full 39.6-mile Linton Subdivision on February 27, 1921, except for 1.23 miles at La Tuque, which became a siding. This small piece, later known as the Linton Spur, remained until it was abandoned on November 24, 1986. Parts of the rest of the line were dismantled, but one 1931 railway diagram indicates that two sections totalling about 32 miles may have been leased, with rails still in place, to sports clubs. Later records indicate that these sports clubs eventually converted the old roadbed to private roadways.

Metabetchouan Railway

St. Andr Jct. to St. Andr de l'Ipouvante

This was a short-lived lumbering railway which ran east off the Q&LSJ from a point about 18 miles south of Chambord. Julian Bernard brought this line to my attention, and has supplied much of my material on it.

The Metabetchouan Pulp Company was incorporated in 1902, with authority to build a tramway from its mill at St. Andr de l'Ipouvante (now Saint-Andr-de-Lac-Saint-Jean), on the RiviTre Metabetchouan, to Lake Bouchette on the Q&LSJ. The line was built in 1911 or 1912, and the provincial government supplied a subsidy in the form of land, 1000 acres per mile of line.

The July 1908 *International Railway Guide* lists St. Andr Jct., but neither this station nor the Metabetchouan line is shown on the accompanying map. Qu bec and Lake St. John Railway public timetables around this time show many changes in this area. The map with the October 1911 timetable shows a line that appears to extend from Bilodeau (12 miles south of Chambord) southeast to St. Andr. The June 1913 timetable is very similar to the 1908 guide, and shows St. Andr Jct as 17.5 miles south of Chambord. The January 1918 employees' timetable has no reference to a junction at St. Andr, but mileages are the same as in 1908 and 1913. Another public timetable, for May 1921, lists a St. Andr as 18.3 miles south of Chambord.

James Bay and Eastern Railway (JB&E)

Roberval to Triquet - Part of CN's Roberval Subdivision

This was an attempt by the Canadian Northern to add a major link to its transcontinental railway chain. The James Bay and Eastern Railway was incorporated on May 4, 1910, to construct and operate a railway from Lake Abitibi (on the Qu bec-Ontario border) via the south of Lac Saint-Jean, to the mouth of the Saguenay River.

Nine days later, on May 13, 1910, the Canadian Northern Railway System made application to the federal government to renew an earlier-approved subsidy in the name of the James Bay and Eastern Railway. When questioned about this application, counsel for Canadian Northern replied that the Qu bec and Lake St. John Railway Company was in the hands of receivers and that the James Bay and Eastern Railway was incorporated to take up the subsidy for the construction of this new link.

Needless to say, Canadian Northern didn't get their line across northern Qu bec. Seven years later, on November 21, 1917, some 19.4 miles was completed from Roberval to LaDore (CN Triquet). This was the last
track constructed by the Canadian Northern in northern Qu bec and it, like the rest of their system, became history 13 months later with the formation of the Canadian National Railways.

Canadian National Railways (CN)

Triquet to Dolbeau - Part of CN's Roberval Subdivision

While a number of railway enterprises had promoted a line around the north of Lac Saint-Jean, Canadian National, with its 26.6-mile line from Triquet (end of the James Bay and Eastern Railway construction) to Dolbeau (Mistassini), penetrated furthest into this timber-rich area. This line, west of Lac Saint-Jean and the Mistassini River, extends to the pulp and paper mills at the junction of the Mistassini and Ouasiemsca rivers northwest of the lake. The line was officially opened on November 22, 1927.

Today, this line, the James Bay and Eastern, and the section of the Qu bec and Lake St. John west of Chambord, together form CN's Roberval Subdivision. At Triquet, CN's Cran Subdivision connects, and runs west to Chibougamau. I'll return to the Cran Subdivision next month, as we discuss CN's newer resource lines.

National Transcontinental Railway (NTR)

Hervey to Cochrane, Ontario - Part of CN La Tuque, and all of CN Saint-Maurice and Taschereau subdivisions

With the completion of the Canadian Pacific from coast to coast, there was grave concern that the CPR wasn't going to be able to supply adequate railway service to the growing demand west of the Great Lakes. In addition, concerned groups expressed the view that there had to be competition to ensure all railway users were getting the best rates and service. The two big players in this agitation were Mackenzie and Mann, with their Canadian Northern enterprise, and the Grand Trunk Railway. We have noted the attempts and the results of Mackenzie and Mann to get a line across northern Qu bec, so it is time to look at the GTR's efforts.

The Grand Trunk Railway, under Charles M. Hayes, picked up from the Trans-Canada Railway Company, which had come forward with several schemes including their 1902 proposal to build a railway from Atlantic tidewater, on the Saguenay River, to Port Simpson, on the northwest coast of British Columbia. This company sounded serious, as they surveyed several hundred miles of line, including an area north of Lake Winnipeg and areas in Qu bec and British Columbia.

In 1903, the Grand Trunk went to the government with a scheme to build, in co-operation with the government, a new transcontinental railway from Moncton, New Brunswick, to Prince Rupert, British Columbia. The proposal was for two main divisions, one from Moncton to Winnipeg, and the other from there to Prince Rupert. The Grand Trunk, with their company, the Grand Trunk Pacific, would construct the line west of Winnipeg. The government would build the line east of Winnipeg, and the Grand Trunk Pacific would then lease and operate this eastern division. The deal sounded good, so the Grand Trunk Pacific was incorporated and an agreement between the railway and the government was signed on July 29, 1903. Since these were optimistic times, the flowery preamble of this July agreement was reflected in the preamble to *The National Transcontinental Railway Act*, which received Royal assent on October 14, 1903. In addition to approving the July agreement and certain other clauses, this act began:

> Whereas, by reason of the growth in population and the rapid development in the productiveness and trade of Canada and especially of the western part thereof, and with a view to the opening up of new territory available for settlement, both in the Eastern Provinces and in the West, and the affording of transportation facilities for such territory, and for other reasons, the necessity has arisen for the construction of a National Transcontinental Railway, to be operated as a common railway highway across the Dominion of Canada, from ocean to ocean and wholly within Canadian territory.

This all sounded great, but we now know that between construction cost overruns, the general economic recession with slow national growth, and the Grand Trunk and Grand Trunk Pacific's near-bankruptcy, they were not in a position to take over the National Transcontinental Railway on its completion. Before we get ahead of ourselves, let's look at some of the facets surrounding the earlier years of the NTR.

In hindsight, the unanswered questions on ``day one'' should have raised a few caution flags. The proposed line was to penetrate a generally uninhabited country. A reconnaissance was made over the route, but the lack of knowledge of the country, shortness of supplies, lack of transport facilities, and outbreaks of scurvy added to the difficulties of the first surveyors. For the most part, these parties had to rely on supplies they brought in with them or could get from the nearest fur trader's outpost or Hudson's Bay Company post.

In 1904, the government appointed the National Transcontinental Railway Commission, in accordance with the 1903 act, to oversee the building of the eastern division of the transcontinental line from Moncton to Winnipeg.

Survey and preconstruction work

The following was extracted from articles carried

in the industry journal *Canadian Railway and Marine World*. During the autumn of 1904 and 1905, some 34 survey parties were equipped and sent out. Before the end of 1906, there were 45 survey parties in the field. These consisted of about 18 men each in the settled districts, and up to 24 men in unsettled districts, not counting the large number of men engaged in transporting supplies by canoe and backpack in summer and by dog team in winter. Each survey party was under the direction of an engineer, and had eight technicians, as well as a cook, eight or nine axemen, and a number of back-packers.

It must be remembered that there were no existing maps to rely on, and in much of the northern territory there were no known landmarks to use as reference points. It was slow, hard work to get the first preliminary routes defined. In the area east from Lake Nipigon to the St. Lawrence valley, two preliminary main routes were selected for further exploration. This was done to determine the general lay of the land. Some help was found at the head of the Saint-Maurice River, where the TΛte-de-Bulle Indians were found to possess an aptitude for cartography, and by following their rude maps, a junction was effected with the party running east from the Gatineau.

The surveyors had to rely on their own skills to establish their general location by taking sun shots with their survey instruments. Considerable planning had to be completed to get the pieces of the surveys together. For example, two survey parties heading towards each other had to estimate their expected time to meet before they left their joint base camp. The reason for this was that at an agreed time on an agreed night, each party would find some high ground and fire ship's flares into the sky. Each party would look for the other party's flares and then head for that location. Some of these crews repeated this on several nights before they made contact.

From these preliminary surveys, a general route was selected, followed by more surveying and engineering calculations to establish the most economical route. Some of the surveys in the remote parts of northern Qu9bec were not finalized until late in 1908, well after the start of construction in 1906. The final route selection was based on complex calculations that included both capital and project operating costs factored into the design limits of grades and curves to determine route miles against construction costs. For example, it was determined that it was justifiable to expend $40 000 to save one normal grade crossing with another railway.

Besides the amount of surveying needed to establish the most economical location, the NTR Commission's decisions for route changes to skirt the north shores of Lakes Nipigon and Abitibi, continuing in this same general direction to the headwaters of the Saint-Maurice River, meant delays and more surveying.

While this surveying was massive, another massive support organization was put in place to establish supply routes and caches of supplies as the surveyors started to get the route tied together. These relied on existing railway lines, canoe and water routes, as well as trappers' routes. Regular systems for mail service were provided as soon as the supply routes were well-established.

The most serious discomforts endured were black flies in summer and a few intensely cold days in mid-winter when the mercury sometimes touched 60 degrees below zero Fahrenheit (-51 C). Accidents due to upsetting canoes and breaking through ice were too common. In the first three years of the survey, 27 lives were claimed by the frigid waters, at that time the only highways. Narrow escapes were of almost daily occurrence. There was a case of a canoe that broke in half while descending the Woodchuck Rapids on the Bell River near Senneterre, and the occupants paddled five miles into camp seated one in either piece.

Route location across northern Qu9bec

Perhaps the forbidding range of hills loosely called the Laurentian Mountains created the most difficult problem for locating the line on the Eastern Division. Three routes near the Saint-Maurice River were proposed. The challenges here included getting sufficient altitude to reach the higher lands to the north as well as avoiding the precipitous cliffs along the rivers.

The chosen route followed several valleys from Hervey-Jonction until a pass was reached overlooking the hamlet of La Tuque. The descent into La Tuque was effected by fitting a two-mile horseshoe curve into a recession of the hillside.

In the 80 miles between La Tuque and the old Hudson's Bay post at Weymontachene, the Saint-Maurice drops 700 feet. Four miles above La Tuque, the Saint-Maurice was bridged by six 140-foot trusses, and the precipitous side hill of the river was followed to Vermillion. From Vermillion, the line followed a circuitous route through the long granite ridges and then along the Saint-Maurice to Weymontachene.

As more surveys of western Qu9bec were made, it was unexpectedly discovered that this high country presented far fewer difficulties than that draining into the St. Lawrence. This resulted in the change to an alignment to the north of Lake Abitibi, late in 1905.

This was a land of innumerable lakes and creeks, separated by irregular ridges of sand and boulders, covered with jack-pine. The actual ``height of land" was crossed three times in northern Qu9bec, and twice in northern Ontario, with elevations ranging from 1070 to 1500 feet above mean tidewater. Deep muskegs and the numerous streams resulted in the need for many bridges and culverts.

The engineering of railway construction was fast becoming a science. The early day practices of people half-guessing about the design of bridges and then gradually loading them to ensure they would carry fully loaded trains had gone. Engineers were now learning about the strength of the various materials and would calculate what sizes were needed to carry certain loads. Part of this new science included learning about the soil on which the structure would be placed. The following is an interesting story about the resourcefulness of a crew in getting their soil samples at a bridge site along a remote part of this line.

Normally, light boring machines were used, with a pile driver being used to drive the casings into the soil. However, in one remote location, a crew with no pile driver improvised. They set their boring machine on the ice, and the casing was driven by an improvised pile driver, consisting of a section of green birch for the drop hammer, working between makeshift leads and operated by transport dogs. The dogs supplied the power to lift the hammer, which would then be dropped on the casing, much as one would use a hammer. When the ice went out, the boring machine was transferred to a raft, and the dogs harnessed to the spokes of a windlass. By this contrivance, casing pipes were driven through 50 feet of hard compacted sand.

The land and construction access

The 1804.84 miles of the NTR between Moncton and Winnipeg was divided into six districts for construction purposes. These districts were further broken down into ``residencies," designated numerically. While, here, we are only interested in parts of Districts B and D and all of District C, the following is a full list of the NTR districts.

$ *District A* Moncton to New Brunswick-Qu9bec boundary; 256.61 miles.

$ *District B* New Brunswick-Qu9bec boundary to east abutment of Megiskan River bridge; 578.19 miles. The western boundary of this district was about Mile 70 of the present CN Saint-Maurice Subdivision, just west of Sanmaur

$ *District C* East abutment Megiskan River bridge to Qu9bec-Ontario boundary; 121.94 miles.

$ *District D* Qu9bec-Ontario boundary to 204 miles west of Cochrane; 276.11 miles.

$ *District E* Mileage 204 west of Cochrane to 125 miles east of Lake Superior Junction; 195.19 miles.

$ *District F* From 125 miles east of Lake Superior Junction to Winnipeg, 375.90 miles.

With the basic surveying and general alignment of the line completed, it was time to start construction. At this time, all there was in the field was a row of survey stakes, along a brushed-out line through the woods about 10 feet wide. So, before construction could start, the exact plots of land needed for the railway needed to be surveyed and staked-out, with all the survey information recorded on plans that were then filed in land registry offices. Sometimes, this work needed to be done a couple of times, if it was found necessary to change the alignment to obtain a better track configuration.

In conjunction with this detailed surveying was the major task of clearing the railway right-of-way. This meant cutting and burning the trees and brush for a width of 66 feet or wider for the length of the line. The news reports of this period indicated that hundreds of men and horses were at work ahead of the actual railway builders on each contract.

Construction methods by the early 1900s had made major advancements. Steam shovels were being used on major excavations and construction rail lines, with ``dinky" engines were used to move construction materials and fill. However, hand labour, horses, and drags were still much needed and used for railway construction work in northern Quȣbec and Ontario. Getting the heavy machinery and supplies to the work sites was always a problem, but in northern Quȣbec, it was a major undertaking that resulted in smaller-sized equipment being used. At the start of construction, access by railway was limited to around Quȣbec City and Hervey.

As we noted above, the Quebec and Lake St. John line from Linton to La Tuque was constructed during 1907. About this same time the Temiskaming and Northern Ontario Railway ran its first train into McDougall's Chutes (Matheson) at the head of navigation on the Black River, a tributary of the Abitibi. From here, two main transport routes were established. A service of steamers and gasoline boats was established on each route, short stretches of light-rail tramway being built around the worst rapids. Bush roads were also cut for winter communications.

One of these routes followed down the Black and Abitibi rivers, to where the new NTR line crossed the Abitibi, beyond which a monorail tramway was constructed eight miles west across country to the Frederickhouse River (west of the present Cochrane). The tramway had a platform car sitting on a two-wheeled truck as its rolling stock. There were shafts for a horse, attached to a pole at right angles to the car and the rail. A horse thus walked alongside the car and rail, the car being guided on the rail by double-flanged wheels. By November 1908, the Temiskaming and Northern Ontario Railway had been extended the remaining 40 miles into Cochrane, and was able to get trains to that point, although it was 1909 before extensive traffic was handled. With the T&NO reaching the NTR at Cochrane, the temporary water and tram routes were abandoned.

Construction in northern Quȣbec and Ontario was also plagued by weather oddities. In the spring of 1907 there was a two-foot depth of snow in some northern areas on June 1, and the ice in Lake Nipigon did not break up until June 16, 1907. During the excessively dry summers of 1909 and 1910, disastrous forest fires did enormous damage along the line, burning contractors' camps, warehouses, and plant, and putting a stop to the work in many locations.

Railway line construction

Actual construction began in the spring of 1906, with contracts being signed for the building of 150 miles westward from Quȣbec City, and 245 miles eastward from Winnipeg. Periodically over the next two years, contracts for additional sections were let, until by October 1908, the complete NTR line was under contract.

While the total length of the NTR through Quȣbec was under contract, indications are that only 64 miles of track had been laid by the end of 1908 in the area of Hervey and La Tuque.

Construction continued year 'round after it was started. It was found that the deep clay cuts in western Quȣbec could be excavated with less expense in winter, as in summer horses could only travel on the greasy blue gumbo after the ground had been corduroyed (the surface of the road covered with closely spaced logs).

Construction accidents occurred frequently during the duration of construction. Many accidents were related to the collapse of temporary bridges, blasting, and rock and mud slides such as the one about the middle of March 1909, twenty miles north of La Tuque, in which five workers were killed.

The track for the NTR was 80 lb. rails, laid on 3000 softwood ties per mile. The contractors, under agreements with the government, put sections of the NTR in service almost as soon as it was completed. By the end of 1910, there was limited service over the approximately 50 miles from Hervey to Fitzpatrick. The line was also progressing eastward from Cochrane towards the Quȣbec border and Taschereau (called O'Brien at the time of construction).

The 119 miles of track from Fitzpatrick to Parent, was put in service in 1911. The following year saw at least some service on the 102.5 miles from Parent west to Doucet (this is presently Paradis, Mile 221.5 on the CN Saint-Maurice Subdivision). Similar service started in 1912 over the 110 miles between Taschereau and Cochrane.

The most isolated section, 117 miles between Taschereau and Doucet, was the last portion of the whole line between Moncton and Winnipeg to receive rails. A press report of November 17, 1913, from Cochrane advised that the last of the steel was laid near Nellie Lake, Quȣbec (about Mile 238.7 on the CN Saint-Maurice Subdivision) about 19 miles east of Senneterre.

While this completed the track, there was considerable ballasting, bridge work, and clean-up work needed to complete the line.

As the NTR was being completed, the poor financial status of the Grand Trunk prevented them from being in a position to take over the line. This was one of the events that was forcing the government on the road to the formation of the Canadian National Railways in 1919. In the meantime, because the NTR was not an operating railway, it was decided on May 1, 1915, to have the Canadian Government Railways take over from the contractors the operation of the approximately 1356 miles of the NTR between Quȣbec City and Winnipeg. This became effective on June 1, 1915, the date quoted as the official opening of this line through northern Quȣbec.