

ONTARIO
NORTHLAND
RAILWAY DIARY

ONTARIO
SESSIONAL
PAPERS

1909-1913

PART III.

ROLLING STOCK AND EQUIPMENT.

Rental of Rolling Stock.

In the month of February the Grand Trunk Railway Company made application to the Commission to rent two locomotives which were then completed and stored at Kingston, and later extended the request to cover the four locomotives of the Commission. With the consent of the Government, the four locomotives were accordingly rented at \$10 per day each, the Grand Trunk Railway guaranteeing that they would be used only on such portions of their system as had the best roadbed and undertaking to return them in ample time for the requirements of the Commission, and subject to proper inspection of their condition on return. Under this arrangement engines Number 1 and 2 were under rental to the Grand Trunk Railway from February 12th to April 24th, and engines Number 3 and 4 from February 12th to April 8th.

The Contractor had before that time applied for the use of these engines and a number of flat cars, when the season for ballasting should open, and after the return of the engines from the Grand Trunk they, and flat cars, were handed over to the Contractor under the following agreement:

MEMORANDUM OF AGREEMENT made this fifth day of March, 1904, between ALLAN RANALD MACDONELL hereinafter called the Contractor, of the first part; THE TEMISKAMING AND NORTHERN ONTARIO RAILWAY COMMISSION, hereinafter called the Commission, of the second part; and THOMAS LONG, of Toronto, JOHN J. LONG, of Collingwood and the HONOURABLE WILLIAM HARTY OF KINGSTON, hereinafter called the sureties, of the third part.

WHEREAS, By Indenture dated the 3rd day of October, 1902, the Contractor agreed with the Commission to furnish all necessary materials, labor, tools, machinery and plant, and to execute and complete all the works required in connection with the building of the Temiskaming and Northern Ontario Railway according to certain plans profiles and specifications as in said Indenture is more fully set forth.

AND WHEREAS, the Contractor is required by the Commission's Engineer in pursuance of the terms of the said contract, to provide for the said work on said railway, on or before the first day of May, 1904, one additional steam shovel, with the necessary additional plant and appliances which the Contractor represents to the Commission would involve large expense to him in the purchasing or otherwise procuring of additional engines and flat cars in conse-

Timber Bridges Filled.—Continued.

Second Division.

M.P. 184½.....	Sand	62 Flat cars.....	Approaches to permanent structures completed.	
199½.....		22 Hart cars		
200½.....	"	1,275 Flat cars.		
202.....				
204.....				
210½.....	Gravel, clay and sand	268 Flat cars.....		Completed.
212.....	" " " "	1,919 " "		"
217½.....	" " " "	147 " "		Approach to permanent bridge.
221.....	" " " "	410 " "		Not completed.
		10 Hart "		

Works Under Construction at End of Year and not Completed.

General freight storage sidings, mileage 98.
 General freight storage sidings, Kerr Lake Junction.
 Freight shed sidings, Cobalt.
 General freight sidings, Charlton.
 Second track from Cobalt to North Cobalt.
 Filling trestle, mileage 221.
 Raising sags to surface, mileage 240 to 243.
 Raising sags to surface, mileage 250 to 251½.
 New round-house tracks, Cochrane.
 *Excavation for new yard, Cochrane.

* Excavation was commenced with steam shovel in January for location of shops and terminal yards. That for the former was completed in May, but that for the yards was postponed until 1910, traffic conditions not demanding it for the present.

MOTIVE POWER AND CAR DEPARTMENT.

Report of Mr. A. Allan, Master Mechanic.

New Locomotives.

Since the beginning of the year, 1909, the following new locomotives have been added to the Motive Power Equipment of this railway:

Two new switching engines, Nos. 152 and 153, built by the Canadian Locomotive Company of Kingston, Ont., received during the month of September. These are of the six wheeled type, with cylinders 19-inch diameter and 26-inch stroke. The diameter of the drivers of these engines is 51 inches and they carry a steam pressure of 180 lbs. The weight on driving wheels in working order is 128,000 lbs., weight of tender in working order 90,000 lbs.

Six new road engines, Nos. 127, 128, 129, 130, 131, and 132, were also received from the Canadian Locomotive Company, Kingston, during the months of September and October. These are of the ten wheeled type, with 19-inch cylinders, 24-inch stroke. Two of these engines are designed for passenger service, the diameter of driving wheels being 63 inches, while the balance are for freight service and have driving wheels 57 inches in diameter. These engines carry a

steam pressure of 190 lbs. Total weight of engine and tender in working order is 265,000 lbs., weight on drivers, 114,000 lbs.

Owing to the large increase in traffic since the beginning of the year, and also to the number of engines required for work service, both construction and maintenance, along the line, our equipment has been taxed to meet the demand for power, and the six new road engines will certainly be of great assistance in this respect, while the two new switch engines, one at Englehart, and the other at Cobalt, are rendering excellent service in taking care of the work at these points.

Locomotive Mileage.

During the year 1909, the engines of this railway have run the mileage shown below:

Engine No.	Miles run 1909	Engine No.	Miles run 1909.
101.....	21,696	119.....	28,773
102.....	24,289	120.....	21,733
103.....	21,951	121.....	29,900
104.....	26,737	122.....	32,190
105.....	14,802	123.....	30,780
106.....	11,941	124.....	28,788
107.....	32,291	125.....	32,394
108.....	29,037	126.....	30,540
109.....	38,703	127.....	2,068
110.....	27,206	128.....	3,396
111.....	11,077	129.....	2,922
112.....	29,778	130.....	1,590
113.....	47,317	131.....	683
114.....	41,208	132.....	
115.....	29,584	150.....	23,673
116.....	29,209	151.....	34,121
117.....	28,548	152.....	6,449
118.....	29,620	153.....	3,522

Engine Dispatch.

Following is a statement showing the number of engines dispatched from the different terminal points during the year 1909:

Terminal Stations	No. of engines dispatched.
North Bay.....	2,431
Cobalt.....	393
Englehart.....	2,477
Cochrane.....	723
Total.....	6,024

Repairs and Renewals to Locomotives.

During the year, Motive Power Equipment has been maintained to the full standard of efficiency, and the repairs and renewals required from time to time have been executed.

Engine No. 102 was taken into shop on October 4th, to have tires turned, and new set of tubes applied.

Engine No. 103 was taken into shop during August and given a light repair.

Engine No. 105 was taken into shop during July, had necessary repairs done, new set of tubes applied, and was turned out for work service.

Engine No. 106 was taken into shop during March, was given a general repair, including tires turned and new set of tubes applied.

Engine No. 107 taken into shop during latter part of 1908, was given a light repair, and had wheels changed under tender, and was turned out for passenger service in January.

Engine No. 108, taken in during September, had new set of tubes applied, and repairs made to link motion, etc.

Engine No. 109 was laid up during latter part of 1908 on account of being derailed and turned over into the muskeg near Cochrane, while in service of Contractor Scott, was given a general repair, and had a new cab applied, was turned out in July and assigned to passenger run on north end.

Engine No. 111 was taken into shop in month of April on account of breakages while in passenger service, was given a general repair and returned to passenger service.

Engine No. 112 was taken into shop in March and given a light repair, and returned to passenger service.

Engine No. 113 was turned out of shop in January after having undergone a general repair, having had driving tires turned, and new tubes applied.

Engine No. 115 was taken into shop, given a light repair, repainted and varnished; and turned out in September.

Engines Nos. 116 117 and 120, have been kept constantly in service, not requiring more than the ordinary running repairs.

Engine No. 118 was in shop during March and given some slight repairs, made necessary by derailment by engine and tender in North Bay Jct. yards. It was also given a light repair during first week in September, and repainted and varnished.

Engine No. 119 was taken into shop during month of January and given a light repair.

Engines Nos. 121, 122, 123, 124, 125 and 126 being comparatively new power, have not required more than the ordinary running repairs to keep them in first class working condition.

Engine No. 150 was brought into shop in September, given a heavy repair, and returned to switching service at Cobalt.

Engine No. 151 has been kept constantly in switching service in North Bay Jct. yard.

The Motive Power Equipment has been generally assigned during the year as follows:

Engine 101, freight and work service.

Engine 102, freight and work service.

Engine 103, freight and work service.

Engine 104, freight and work service.

Freight 105, freight and work service.

Engine 106, freight and work service.

Engine 107, passenger and work service.

Engine 108, passenger and work service.

- Engine 109, passenger service.
- Engine 110, passenger service.
- Engine 111, passenger service.
- Engine 112, passenger service.
- Engine 113, passenger service.
- Engine 114, passenger service.
- Engine 115, freight service.
- Engine 116, freight service.
- Engine 117, freight and work service.
- Engine 118, freight and passenger service.
- Engine 119, freight service.
- Engine 120, freight and work service, switching Englehart.
- Engine 121, freight service.
- Engine 122, freight and passenger service.
- Engine 123, freight service.
- Engine 124, freight service.
- Engine 125, freight service.
- Engine 126, freight and passenger service.
- Engine 127, passenger service.
- Engine 128, passenger service.
- Engine 129, passenger service.
- Engine 130, freight service.
- Engine 131, freight service.
- Engine 132, freight service.
- Engine 150, switching service at Cobalt.
- Engine 151, switching service at North Bay Jct.
- Engine 152, switching service at Cobalt.
- Engine 153, switching service at Englehart.

Each engine has had the boiler washed out once in every two weeks when in regular service. Stay-bolts and fire-boxes have been examined regularly, tested, and renewals made where bolts were found defective or broken.

The nettings and smoke boxes, ashpans and dampers have been regularly examined every trip during the summer season, as a precaution against fire. During damp weather and at such seasons as the danger from this source would be reduced to a minimum, the nettings, ashpans and dampers have been examined twice a week. The necessary records are kept in the office of the Master Mechanic of these inspections, also of the dates on which the boilers were washed out. Owing to the hard nature of the water supplied to the engines at Cobalt, it has been found necessary to use a small amount of soda ash in the water to prevent scale in the boilers. This has also been found beneficial at Englehart, since we started using the water from the artesian wells at that point.

Repairs to Passenger Equipment.

The following passenger equipment has been repaired at North Bay Jct. during the year:—

First class coach 100 was given a general overhaul, had truss rods tightened up, was repainted and varnished in October.

First class coach 107 was repaired and revarnished and turned out in May.

First class coach No. 108, was revarnished during the month of August.

First class coach No. 109 was through the shop in July, and after receiving necessary repairs was turned out with a coat of varnish.

First class coach No. 110 was taken into shop in January, and received extensive repairs, made necessary on account of being in the wreck at mileage 33½; was also repainted and varnished before being turned out.

Second class coach No. 2 was also in the shop during January for repairs, made necessary by wreck at mileage 33½.

Second class coach No. 4 was given a coat of varnish in the month of April.

Second class coach No. 14 was taken into the shop in January, given some light repairs, and repainted and varnished.

Second class coach No. 32 was taken into the shop in the month of February, on account of heater pipes having been frozen up while in interline service between Toronto and Englehart. Repairs were made to heater pipes and bill rendered according to the M. C. B. rules of interchange. This coach was also repainted while in the shop.

Mail and Express cars 23 and 25, received during the month of August, 1908, required to be taken into the shop and burnt off, repainted and varnished during June. As these cars did not meet with the specifications and guarantee, the contractors were billed with the cost of repainting.

Baggage car 21 was taken into the shop in June and revarnished.

The following passenger equipment has been supplied with the Safety Car Heater & Lighting Company's Pintsch Gas Lighting System:—

Second class coach 4, applied in June.

Second class coach 6, applied in June.

First class coach 112, applied in October.

First class coach 113, applied in October.

Mail and Express cars 23 and 25, have had the Pintsch Gas Lamps applied, thus completing the Pintsch Gas Equipments, the tanks, piping, etc., having been applied by the Preston Car & Coach Company when the cars were built at their works in Preston.

First class coaches 101 and 103 were returned from the Preston Car & Coach Company in first class condition during the month of March, having been sent there for a general overhaul.

Second class coaches 16 and 20, which were in the service of contractor T. S. Scott (McRae, Chandler & McNeil contract) during 1908, were returned to us, and have been in use as vans in work service during the greater part of the summer.

New Conductors' Vans.

During the month of October, seven new conductors' vans, numbered 63 to 69 inclusive, were received from the Silliker Car Company of Halifax, N.S.

Repairs to Conductors' Vans.

Owing to the increasing freight traffic, our van equipment has been kept constantly in service, and it has been found possible to give them the repairs necessary.

Van 62, damaged in wreck at mileage 41, June 28th, was taken in and given the necessary repairs, repainted and varnished.

Repairs to Freight Equipment.

Necessary repairs and renewals have been made by the Car Department staff at North Bay Junction and Englehart, to freight cars belonging to this road, and

Cochrane: All necessary electrical construction is being carried on in the roundhouse, machine shop, stores building, depot, freight shed, as these buildings are being erected, in order that they may be electrically lighted from the 50 kw. A. C. generator to be installed in engine room of roundhouse. The electric wiring is being done in iron conduit pipe; in accordance with the Underwriters' rules, making same absolutely fire-proof.

Coal Tests and Analysis.

During the year we have experimented with several grades of coal for locomotive use, with a view of selecting a good quality of coal at a somewhat cheaper price than the coal formerly used.

The matter of fuel and oil consumption has been carefully watched and the Road Foreman has brought about good results by assisting the engineers and firemen in this respect. A locomotive performance sheet has been compiled monthly, and is found to be an advantage in connection with economizing in this respect.

Dynamometer Car.

In order to establish a correct tonnage rating for each class of engine, a dynamometer car with experienced operator for same was secured.

Tests were made of the different classes of engines hauling weighed trains, and from the dynamometer car data obtained, a schedule is being prepared, giving the maximum tonnage capacity of engines from station to station over each division.

Fire Extinguishers.

In accordance with recommendations of the Dominion Railway Commission, each passenger coach has been equipped with fire extinguishers of approved design.

Work Done and Material Supplied to Outside Companies and Firms.

Our steam crane has been loaned on a number of occasions to the Canadian Pacific Railway, for which proper bill has been rendered to cover rental, coal, oil and wages of operator, when he was required.

The Canadian Pacific engines have been supplied with water from North Bay Junction when requested, and proper charge made.

The Cleveland Sarnia Saw Mills Company have been billed with the cost of adjusting the loads at North Bay Junction yards on several occasions, such loads not being in a safe condition for transportation. Four spring hangers were also supplied to this firm for one of their engines during the month of October.

Bills have been rendered against a number of firms to cover charges for repairs to our cars, damaged on private sidings.

Repairs were made to E. F. & G. E. Fauquier Company's car No. 119 at Englehart, as requested, and bill rendered to cover cost.

A number of patterns have been made for the Nipissing Foundry Company at North Bay, and proper charges made for the work and material supplied.

Charges have been made for water supplied to the Temagami Hotel & Steamboat Company at Temagami, for use in restaurant, bakery, etc., at that station.

Steel nuts and a pair of brackets were supplied to the Montreal Smelting Company at Trout Mills on request.

Bills have been rendered monthly to cover all work done for construction, including engine rental, and other miscellaneous charges.

MOTIVE POWER AND CAR DEPARTMENT.

Annual Report Ending October 31st, 1910, of Mr T. Ross, Acting Master Mechanic.

New Rolling Stock.

During the year 1910, following new equipment has been received:—

Fifty box cars, 50,000 lbs. capacity, from Canadian Car and Foundry Company, Montreal. These box cars are similar to the preceding lot of fifty, which were supplied by same builders, and are of the type adopted as standard by the C. & N. O. Railway, i.e., steel underframe with wood superstructure.

Twelve steel drop-bottom dump cars, 80,000 lbs. capacity, from Canadian Car and Foundry Company, Montreal. These cars were primarily secured for use in connection with the cinder hoists at each terminal, and in addition to this are suitable for handling coal, gravel, lumber, etc.

One official car, "Sir James," from Preston Car and Coach Company, Preston, Ont. This car is of most modern description, and of the composite type steel underframe, with wood superstructure. Length 70 feet, 3 1/2 inches over body, and 80 feet, 3 3/4 inches over buffers. Interior finished in quartered oak, and lighted by gas and electricity.

Contract has been let to the Canadian Locomotive Company, Kingston, for four "Pacific Type" passenger locomotives. These are to be much larger locomotives than those now in service. Dimensions are: cylinders 21-in. x 28-in. diameter of driving wheels 69 inches; steam pressure, 200 lbs.; weight on drivers in working order 135,500 lbs.; total weight of engine in working order, 202,500 lbs. These engines will be delivered the early part of 1911.

Contract has been let to Canadian Car and Foundry Company, Montreal, for three Parlor-Cafe cars. These cars will be of similar construction to the new official car, i.e., steel underframe with wood body. Delivery of same will be made in the early part of 1911.

New Shops and Equipment.

During the year 1910, the new roundhouse and machine shop at Cochrane have been completed, and the following new equipment installed therein:

3—66-in. x 14-ft. Horizontal Tubular Boilers, purchased from the John Innes Company, Toronto.

1—Duplex Feed Water Pump, from the Smart Turner Company, Hamilton.

1—10-in. x 14-in. Rand Air Compressor, from the Rand Drill Company, Sherbrooke, Que.

1—25 H.P. Horizontal Stationary Engine, from E. Leonard & Sons, Company, London, Ont.

1—8-in. x 6-in. x 12-in. Duplex Pump, from the Canada Foundry Company, Ltd., Toronto.

1—75 H.P. Robb Armstrong Engine, direct connected to Westinghouse 30 Kw. A. C. Generator, for lighting purposes.

1—Cochrane Feed Water Heater, from the Canada Foundry Company, Toronto.

1—30-ton Hydro-pneumatic drop pit jack, from Watson Stillman Company, New York

1—24-in. Vertical Drill, from John Bertram & Sons Co., Dundas.

1—20-in. Gap Lathe, from The London Machine Tool Co., Hamilton.

1—Emery Wheel
1—10-ton Hand
1—Pipe Thread
1—Blacksmith
This roundhouse
for piping, electric
instruments.

The new office,
have been cor
instruments.

The coal chutes

Electrical trans

light shed, new u

roundhouse, and all

above buildings,

Arrangements a

Building at Cochrane

At North Bay J

1—42-in. Vertic

Ontario.

1—16-in. x 6-ft

Ontario.

1—24-in. Shap

1—Link Grinde

1—Band Re-saw

Ontario.

At Englehart

and drier, and pne

engines.

Locomotive Mileage.

During the ye

miles as shown k

Engine Number

- 101
- 102
- 103
- 104
- 105
- 106
- 107
- 108
- 109
- 110
- 111
- 112
- 113
- 114
- 115
- 116
- 117
- 118

1911

- 1—Emery Wheel Stand.
- 1—10-ton Hand Travelling Crane, from Smart Turner Company, Hamilton.
- 1—Pipe Threading Machine.
- 1—Blacksmith Forge complete with Anvil, Tools, etc.

This roundhouse is now complete with all necessary steam, air, hot and cold water piping, electric lighting, and also the small tools necessary for present requirements.

The new office, stores and bunkroom building in connection with the roundhouse have been completed and equipped with fittings necessary for present requirements.

The coal chutes are well under way, and will be completed shortly.

Electrical transmission lines have been erected at Cochrane to connect the freight shed, new union depot, and stores building, with the electrical plant at roundhouse, and all wiring, etc., necessary for lighting purposes, in connection with the above buildings, completed.

Arrangements are being made to supply the Transcontinental Railway Office building at Cochrane, with electric light from the T. & N. O. lighting plant.

At North Bay Junction shops, the following new machinery has been installed:

- 1—12-in. Vertical Boring Mill, from John Bertram & Sons Company, Dundas, Ontario.
- 1—16-in. x 6-ft. Engine Lathe, from John Bertram & Sons Company, Dundas, Ontario.
- 1—24-in. Shaper, from John Bertram and Sons Company, Dundas, Ontario.
- 1—Link Grinder, from The M. C. Hammett Company, Troy, N. Y.
- 1—Band Re-sawing Machine, from the Hespeler Machinery Company, Hespeler, Ontario.

At Englehart roundhouse, sand house has been erected and equipped with sand drier, and pneumatic apparatus for elevating sand and delivering same to engines.

Locomotive Mileage.

During the year, the locomotives belonging to this Railway have run the mileages as shown below:—

Engine Number.	Miles Run, 1910.	Total Mileage of Engines,
101	25,736	193,472
102	26,312	189,070
103	7,981	167,999
104	23,333	182,797
105	18,862	124,610
106	31,150	127,471
107	28,673	149,405
108	36,478	163,128
109	50,170	186,351
110	7,686	118,624
111	50,522	175,031
112	30,397	177,590
113	37,036	177,657
114	42,107	178,422
115	27,393	88,370
116	16,470	79,384
117	26,502	82,023
118	33,513	91,217

Age of Engines

8,418
 9,616
 5,733
 2,102
 9,593
 0,586
 9,906
 19,878
 17,226
 12,719
 5,831
 38,422
 31,091
 19,471
 59,694
 28,404
 33,046

38,420

between each general

dispatched from

	Number of Engines Dispatched
.....	2,997
.....	478
.....	3,157
.....	628
.....	7,258

motives as follows and turned out of shop undergoing repairs, etc. This engine has driving wheels new smokestack fitted, made necessary in January, and turned

Engine was loaned contractors E. F. & G. E. Fauquier at Cobalt after part of August, and returned on September 10th.

Engine 105 was taken into shop during August, given general repair, and turned out for freight service on October 4th.

Engine 107 received light repairs, and delivered for service on January 10th. This engine was also loaned to Contractors E. F. & G. E. Fauquier on August 25th, and is still in their service.

Engine 108 was given general repair, and turned out of shop on January 10th. This engine had driving tires turned, new boiler tubes applied, engine and tender repainted, and was put into passenger service on trains 1 and 2, between Englehart and Cochrane.

Engine 109 was taken into North Bay Junction shop on June 27th, to have engine truck tires turned, engine truck brasses refitted, guide bars closed, big end brasses renewed, tender wheels changed, and engine and tender repainted, being completed on July 7th.

Engine 110 was given general repair and turned out in first class condition for passenger service, on August 6th. This engine required to have front frames straightened, new pilot and buffer beam applied, etc., on account of being damaged in an accident at Cobalt, August 25th.

Engine 112 was taken into shop during March, given thorough overhauling, and new tubes applied, being turned out May 30th.

Engine 113 was taken into shop during month of April, given some light repairs, engine and tender repainted.

Engine 114 was taken into shop for general repairs and new tubes, during January, and was turned out for passenger service on March 12th. This engine was also in shop for repairs to tender tank, and brake rigging overhauled, during July.

Engine 115 at present in shop undergoing general repair.

Engine 116 has been given heavy repairs, had forty-eight boiler tubes renewed, and turned out for freight service on May 17th.

Engines 117 and 118 crossheads lined up, boiler mountings overhauled, running board bracket studs renewed, and intermediate side rod bushings renewed, during month of July.

Engine 119 given thorough overhauling, new tubes applied, and driving tires turned, being completed during August.

Engine 120 taken into shop on September 12th for general repair, and will be completed during November.

Engine 121 given heavy repairs, such as piston rings renewed, tender trucks overhauled, and seventy-five new boiler tubes applied, completed during October.

Engine 122 seventy-five new boiler tubes applied during month of July.

Engine 123 received heavy repairs, such as intermediate side rod bushings renewed, brake rigging overhauled, and one hundred new boiler tubes applied.

Engine 124 given heavy repairs during August, and seventy-five boiler tubes renewed.

Engine 125 given light repair, engine and tender repainted, during month of April. This engine also had eighty-two boiler tubes renewed during June.

Engine 126 at present undergoing general repair, having new tubes applied, and driving tires turned, etc.

1911

Engine 104 was in shop during February undergoing light repairs. This engine was loaned contractors E. F. & G. E. Fauquier at Cochrane, during the latter part of August, and returned on September 10th.

Engine 105 was taken into shop during August, given general repair, and turned out for freight service on October 4th.

Engine 107 received light repairs, and delivered for service on January 10th. This engine was also loaned to Contractors E. F. & G. E. Fauquier on August 25th, and is still in their service.

Engine 108 was given general repair, and turned out of shop on January 10th. This engine had driving tires turned, new boiler tubes applied, engine and tender repainted, and was put into passenger service on trains 1 and 2, between Sibley and Cochrane.

Engine 109 was taken into North Bay Junction shop on June 27th, to have engine truck tires turned, engine truck brasses refitted, guide bars closed, big end brasses renewed, tender wheels changed, and engine and tender repainted, being completed on July 7th.

Engine 110 was given general repair and turned out in first class condition for passenger service, on August 6th. This engine required to have front frames strengthened, new pilot and buffer beam applied, etc., on account of being damaged in accident at Cobalt, August 25th.

Engine 112 was taken into shop during March, given thorough overhauling, new tubes applied, being turned out May 30th.

Engine 113 was taken into shop during month of April, given some light repairs, engine and tender repainted.

Engine 114 was taken into shop for general repairs and new tubes, during May, and was turned out for passenger service on March 12th. This engine was also in shop for repairs to tender tank, and brake rigging overhauled, during July.

Engine 115 at present in shop undergoing general repair.

Engine 116 has been given heavy repairs, had forty-eight boiler tubes renewed, and turned out for freight service on May 17th.

Engines 117 and 118 crossheads lined up, boiler mountings overhauled, running board bracket studs renewed, and intermediate side rod bushings renewed, during month of July.

Engine 119 given thorough overhauling, new tubes applied, and driving tires renewed, being completed during August.

Engine 120 taken into shop on September 12th for general repair, and will be completed during November.

Engine 121 given heavy repairs, such as piston rings renewed, tender trucks overhauled, and seventy-five new boiler tubes applied, completed during October.

Engine 122 seventy-five new boiler tubes applied during month of July.

Engine 123 received heavy repairs, such as intermediate side rod bushings renewed, brake rigging overhauled, and one hundred new boiler tubes applied.

Engine 124 given heavy repairs during August, and seventy-five boiler tubes renewed.

Engine 125 given light repair, engine and tender repainted, during month of April. This engine also had eighty-two boiler tubes renewed during June.

Engine 126 at present undergoing general repair, having new tubes applied, and driving tires turned, etc.

Engine 127 required to have repairs made to front end, such as new pilot, buffer beam, etc., on account of being damaged in wreck at Temagami on November 25th, 1909.

Engine 130 required to have repairs made to tender, which was damaged in accident at bridge, mileage 119½, December 5th, 1909.

Engine 150 was taken into shop during March, and given some light repairs to motion, etc.

Engine 151 was given a heavy repair during January. This engine also had driving tires turned during month of June. Each engine has had the boiler washed out once every two weeks, when in regular service. Stay-bolts and fire boxes have been examined regularly, boilers tested, and stay-bolts renewed, where necessary.

SMOKE BOX NETTINGS, ASH PANS, AND DAMPERS, HAVE BEEN REGULARLY EXAMINED AT THE END OF EACH TRIP, AND EVERY PRECAUTION HAS BEEN TAKEN AGAINST FIRE FROM THIS CAUSE DURING DAMP WEATHER, AND AT SUCH TIMES AS THE DANGER FROM THIS SOURCE WOULD BE REDUCED TO A MINIMUM, THE NETTINGS, ASH PANS, AND DAMPERS, HAVE BEEN EXAMINED TWICE A WEEK.

Proper records of the examination of locomotive stay-bolts, nettings, dampers and also of the boilers washed out, are kept in the Acting Master Mechanic's Office.

The Motive Power Equipment has been generally assigned during the year as follows:—

- Engine 101, freight and work service.
- Engine 102, freight and work service.
- Engine 103, freight service.
- Engine 104, freight and work service.
- Engine 105, freight and work service.
- Engine 106, freight and work service.
- Engine 107, passenger and work service.
- Engine 108, passenger and freight service.
- Engine 109, passenger service.
- Engine 110, passenger service.
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- Engine 115, freight service.
- Engine 116, freight and switching service.
- Engine 117, freight and work service.
- Engine 118, freight and passenger service.
- Engine 119, freight and passenger service.
- Engine 120, freight and work service.
- Engine 121, freight and work service.
- Engine 122, freight service.
- Engine 123, freight service.
- Engine 124, freight service.
- Engine 125, freight service.
- Engine 126, freight and passenger service.

Engine 127, pa
 Engine 128, pa
 Engine 129, fr
 Engine 130, pa
 Engine 131, pa
 Engine 132, fr
 Engine 150, sw
 Engine 151, sv
 Engine 152, sw
 Engine 153, sw

Each Cleaning.

Statement show
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Statio
 North Bay Jur
 Englehart....
 Cochrane.....

Total

Repairs to Passenger

Following passe

First class coa
 interior of coach re
 First class coac
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 have been made.
 October.

First class coac
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First class coa
 loaded and painted.

First class coa
 pleted on April 3rd

First class coac
 Second class cc

and express car 3
 incident in C. P. R.

Canadian Paci
 Second class cc

revarnished.

Second class c
 ed and painted.

Second class cc
 for and exterior

Second class cc
 light repairs

Mail and Expr
 mail end of can

C. T. R.

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ring the year

- Engine 127, passenger service.
- Engine 128, passenger service.
- Engine 129, freight service.
- Engine 130, passenger and freight service.
- Engine 131, passenger and freight service.
- Engine 132, freight service.
- Engine 150, switching service at Cobalt.
- Engine 151, switching service at North Bay Junction.
- Engine 152, switching service at North Bay Junction and Cobalt.
- Engine 153, switching service at Englehart.

Shop Cleaning.

Statement showing the number of coaches cleaned at the different terminal stations during the year:

Stations.	Number of Coaches Cleaned.
North Bay Junction.....	1,931
Englehart.....	8,018
Cochrane.....	1,860
Total	11,809

Repairs to Passenger Equipment.

Following passenger equipment has been repaired at North Bay Junction shops: First class coach, 100 trucks and brake equipment overhauled, interior and exterior of coach revarnished, and trucks repainted, during August.

First class coach 101, received considerable damage to trucks and air brakes, by derailment of trains No. 1, at mileage 186 1/2, February 8th, and necessary repairs have been made. This coach also received a general overhaul during month of October.

First class coach 102 taken into shop during March, given general repair, and revarnished.

First class coach 103 revarnished during December, 1909, also trucks overhauled and painted.

First class coach 106 was given general repair, and revarnished, being completed on April 3rd.

First class coach 109 repaired and revarnished during month of January.

Second class coaches 2 and 28 had vestibules and end sills broken; also mail and express car 3 had end sheathing, coupler and truck end timber broken, by accident in C. P. Ry. yard, on the morning of July 25th. Repairs have been made and Canadian Pacific Railway billed with cost.

Second class coach 8 was taken into shop during April, given general repair and revarnished.

Second class coach 26 had interior and exterior revarnished, trucks overhauled and painted, and turned out on December 23rd, 1909.

Second class coaches 28, 30, 34 and 36 have been given a general repair, interior and exterior of coaches revarnished, and trucks repainted.

Second class coaches 32 and 40 have been revarnished. Coach 40 was also given light repairs during October.

Mail and Express car 1 has been given a general overhaul and revarnished, and mail end of car enlarged.

Mining Leases.

Agreements to amend mining leases so as to substitute for the present rentals the proposed new scale based on net profits, have been drafted, but the terms of same have not yet been settled with the Mining companies.

Surface Rights.

Negotiations are pending with the Wright Mining Company, and the Cobalt Town Site Mining Company for adjustment of differences that have arisen as to the rights of the Commission and Mining Companies respectively to deal with the surface for purposes unconnected with mining.

REPORT OF S. B. CLEMENT, CHIEF ENGINEER.

I beg to present the following report of work done under the direction of the Chief Engineer, for the twelve months ending October 31st, 1910.

Surveys.*Nipissing Junction Spur.*

A spur line connecting the North Bay Junction yards with the Grand Trunk Railway at Nipissing Junction was located and complete plans, specifications, and estimates were prepared.

Elk Lake—Gowganda Branch.

During the year the location of a branch line from Charlton to Elk Lake and Gowganda was completed and plans and estimates of cost were prepared. A trial line was also run between Earlton and Elk Lake.

Porcupine Branch.

Preliminary surveys were made for a branch line into the Porcupine Mining District. The area represented by a triangle, the base of which is the operated line between Matheson and Nellie Lake and the apex the township of Tisdale, was carefully explored and trial lines were run wherever necessary to determine the topographical features of the country. The branch line was not located but the preliminary surveys showed that the best location as regards length, grades and capital cost would be from a point on the main line near M.P. 225.

Grade Reduction North Bay to Liskeard.

The subject of grade reduction on the first division between North Bay and Liskeard has received careful study. After the thorough examination of a wide belt of territory adjacent to the main line, cut offs have been located as follows:—

North Bay to Mileage 35.

Mileage 48 to Mileage 50.

Mileage 62.5 to Mileage 66.4.

In each case the cut off as located is a material improvement over the operated line as regards length, curvature and grades. Complete plans, profiles, and estimates of cost of construction for these cut offs are being prepared. Also estimates of the reduction in operating expenses that might be brought about if the cut offs were to be constructed.