

**MALCOLM MCCRIMMON (1851-1928)
PIONEER RAILWAY CONTRACTOR**

by Alan Vanterpool

One of the names which keeps popping up when reading about the early railway lines around Edmonton is that of Malcolm McCrimmon. Recently, I ran into his namesake in the Highlands district of Edmonton, who turned out to be the contractor's grandson. About the same time I was doing some research at the Provincial Archives and came across a short biography of McCrimmon¹. Here follows a summary of the items of railway interest in this paper.

Malcolm McCrimmon was born on a farm near Woodvale, Ontario, in 1851, about 20 years after his father had emigrated from the Isle of Skye. Malcolm left home at the age of 21 in 1872 and headed to Manitoba. There, he worked on the International Boundary Commission assisting in the survey of the boundary between Canada and the USA. When this job was over, Malcolm's boss gave him a team of mules. He then set up a freighting business between communities in North Dakota and Winnipeg.

The next we hear of McCrimmon was in 1881 when he partnered with an A. Quigley and obtained a contract to build the roadbed for a small section of line on the CPR west of Winnipeg. Donald Mann was working in the area about this time and one wonders whether McCrimmon and Mann met then. As we shall see, the two of them worked together later.

From 1881 to 1885 the McCrimmon and Quigley partnership worked on several contracts for grading on the CPR main line. In the winters, the partners took their men and teams into the Manitoba bush and delivered ties to the railway. In this way they managed to keep their men and equipment working year round, unlike many of their competitors.

In October 1882 Malcolm McCrimmon married Flora McArthur in Winnipeg. She was quite enterprising, as she had set up a boarding house, and tailoring operation, to raise money to put a younger brother through divinity school.

The partnership's final contract on the CPR was between Field and Golden BC. They missed the last spike ceremony because they were finishing up the final details on their contract at the time. The partners were described as "good railway builders, straightforward and pleasant to deal with." The partnership now dissolved, and McCrimmon continued on his own.

Between 1885 and 1889 he worked on CPR branch lines in Manitoba. In 1889 he graded five miles on the Qu'Appelle, Long Lake and Saskatchewan Railway north of Bladworth, on the Regina-Saskatoon line. He then moved his headquarters and home from Winnipeg to Calgary and worked on the Calgary and Edmonton

Railway between Calgary and Fort McLeod. When that job was completed in 1892 he worked in the Crowsnest Pass. The grade he constructed was not used for several years but eventually was part of the CPR line from Lethbridge to Kootenay Landing. He continued working on stretches of line between Lethbridge and Cranbrook.

In 1893 he was in the Red Deer area grading for the Red Deer Valley Railway and Coal Company from Nose Creek to near Carbon. This line was never completed due to the owner's financial problems. During the winter McCrimmon hauled coal from the Knee Hill Valley Coal Mine into Calgary, where it fetched \$6.00 per ton. About this time he usually employed 50 to 60 men, although sometimes as many as 200. He also had a large herd of horses, some mules, and of course, a substantial amount of grading equipment.

Later, he got into the business of digging irrigation ditches, including one for the Calgary Irrigation Company, one for the Springbank Irrigation District and one for the Oxley Ranch.

He then moved his outfit to Manitoba and began working on the CNoR main line north and west of Winnipeg. In 1901 he moved his family to Edmonton. Due to a shortage of housing they spent a very cold winter in a tent on the Rossdale flats. That year he started working on the EY&PR in the Mill Creek Ravine. He expected it to take three months work at the most, but the fall of 1901 and the spring of 1902 were very wet. The banks of the Ravine were continually slipping. In addition the soil was very poor and McCrimmon found it difficult to get a firm railway bed. There was also a severe shortage of labour to compound his difficulties.

In 1903 McCrimmon obtained a contract to grade seven miles of line west of the CNoR bridge at North Battleford. He sent a lot of his equipment across the prairie to North Battleford, from Edmonton. But he also had four scows built, loaded the rest of his equipment and supplies on them, and sent them downstream under the command of a one-armed river captain. Apparently, the captain lived up to his reputation for avoiding sandbars, and the scows arrived in North Battleford in record time. *(Continued on Page 2)*

IN THIS ISSUE

Edmonton's 4th Annual Train Show	3
Administration Notes	3
More Local Derailments of Interest (Part 3)	4
As It Was - APRA Events of the Past	6
End of Another Steam Era?	6
President's Column	6
Summer 2001 Steam Locomotive Operations Report	7

(MCCRIMMON continued from page 1)

In 1904, McCrimmon's crew worked on the main line of the CNoR, west of Lloydminster. In 1905 he built part of the line between Lavoy and Scotford. The prime contractor on this section was J.D. McArthur, later of ED&BCR fame, to whom McCrimmon was a subcontractor. McCrimmon ended 1905 putting in the "Y" on the EY&PR and grading around the new Edmonton Station and the CNoR Edmonton freight yard.

In 1906 he graded the E&SLR to Morinville and the EY&PR to Stony Plain. Along with contractors such as Mannix, Wilson, Baker, Olson and Nelson he later graded west of Stony Plain almost to the Indian reserve at the east end of Lake Wabamun (then called White Whale Lake). This contract ceased September 1st, 1907.

That same year he moved part of his equipment to Saskatoon and broke sod on the CNoR's Goose Lake line to Calgary. He also graded Victoria Park in Edmonton, between 99th and 97th Avenues and 99th to 101st Streets. The next year McCrimmon graded the first tram lines in Edmonton, and in September won the contract to build the Shellbrook Branch of the CNoR west of Prince Albert.

In 1909 McCrimmon received his first contract to build highways for the Alberta Government, west of Ellerslie. Later that year, and through to the end of 1911 he worked on the railway line between Morinville and Athabasca Landing (later renamed Athabasca). He ran into major problems for three miles north of Clyde due to muskeg. The roadbed had to be corduroyed with big, full-length trees laid side by side. In 1906-07 there was a lot of snow, so the ground under it didn't freeze. He continued working through the winter by clearing just enough snow to do a day's work before the ground froze again.

In 1911 he sublet the contract to the end of the line from the Northern Construction Company of Winnipeg. This included a five mile stretch north of Tawatinaw Creek through very sandy soil. Winter came hard and early, and in order to get the contract finished McCrimmon resorted to heroic methods. He thawed the ground by building a pile of logs 400 feet long, 40 feet wide and three feet high, then setting them on fire. Overnight the ground beneath thawed, and his teams could grade the next day! This procedure was continued until the contract was completed.

Something of interest to APRA members: in 1912 McCrimmon graded the CNoR line from Oliver Junction to Gibbons, outside our Museum site. Steel was laid on a few hundred yards at Oliver Junction in 1914, but the line was not completed until 1919.

In 1913, McCrimmon worked on a CNoR cutoff between Alliance and Coronation, but the work was stopped by a CPR court injunction. So MacCrimmon got a subcontract to work on a CPR branch!

From 1914 to 1917 McCrimmon worked for the Alberta Government building highways in the Edmonton area. The last one of these was the original Highway 2 between Hobbema and Ponoka. McCrimmon's last railway contract was in 1918 when he graded the line between Sangudo and Whitecourt.

Shortly after, he retired from earth moving. He had set up a lumber mill on the ED&BCR at Belloy (east of Rycroft) in 1917 with one of his sons, but gradually withdrew from its operations. He had also bought a farm at Bon Accord in 1914, but rented it out. He completely retired in 1921 at the age of 70. He died at his house on 103rd

Street in downtown Edmonton in December 1928, at the age of 77. His wife survived him by four years.

McCrimmon treated his men well and was singularly free of labour troubles. His men paid 50 cents a month medical fee, as was typical of CNoR contractors. This entitled them to free medical and hospital services when needed, and doctors regularly inspected the construction camps, and camp hospitals.

There are some pictures of McCrimmon's activities in the Glenbow archives. These can be downloaded from the Glenbow's website. Go to www.glenbow.org, and then follow the links to "archives", then "search archives", then "pictures":

- NA-139-1, NA-548-2 - very similar pictures of construction on the CNoR four miles north of Morinville, 1909
- NA-139-2 shows MCCrimmon's railway gang football team, with tent office, cook tent, men's tents and horse's tents in rear, 1909
- NA-139-3 shows a cook tent on the CNoR construction of the line to Athabasca, 1909
- NA-2597-7 - picture of Malcolm McCrimmon's house at 300 3rd Street in Edmonton, ca. 1910. Mrs. McCrimmon in foreground.



¹ S.S. Jameson, "Story of Malcolm McCrimmon (1851-1928). Pioneer Railroad Contractor." As told by his son, Arthur McCrimmon and from additional research. 1962. Copy in Provincial Archives, accession number 63.3, shelf S.

ANNUAL GENERAL MEETING

Please take note that the 2002 Annual General Meeting of the Alberta Pioneer Railway Association will be held on **Tuesday January 22, 2002, at 7.30 PM at the Atco Gas Building, 10540 - 112 Street, Edmonton, Alberta.** Please plan on attending.



Unidentified members of a work crew pose on the nose of 3803, after it ran over a broken rail near Uncas, Alberta. APRA member Norm Corness has more pictures of this and another locomotive wreck, 4316, in his continuing series on the subject of locomotive wrecks. His article and pictures appear on pages 4 and 5.

MUSEUM PARTICIPATION IN EDMONTON'S 4TH ANNUAL TRAIN SHOW

By Terry Wolfe

For the second year, the Museum participated in the Edmonton Train Show, held at the Mayfield Inn Exhibition Hall this year. The show outgrew the previous site at the Aviation Museum. This show just gets bigger every year!! This year we had a bit of excitement; on Saturday at 4 pm a fire broke out at the Mayfield site. An overheated roofer's tar wagon and truck caught on fire. The hall was evacuated while the city's fire fighters responded to the two-alarm fire.

Our little display was visited by many (2000+ ??) interested and potential visitors. Our booth was located near the show's entrance, so most of the public had to go past us on their way in. A lot of questions were answered by the booth volunteers: "How long have you been here?"; "Is this museum in Edmonton?"; "Do you have a web page?". All 200 membership applications and all 250 museum information sheets I had printed up were handed out during the first day. More had to be made up for the second day, which were all gone by noon.

A large number of visitors mentioned that they hadn't been to the site in a number of years. However, after looking over the recent pictures in the photo album and watching the videos, they quickly changed their minds about repeat visits. A number of museum mementoes were purchased by an eager public, so another \$550.00 was raised and more Alberta Railway Museum logos are out in the public eye.

Again, I consider this effort to promote public awareness is a definite success and will participate in other shows in the future. I would very much like to thank the volunteers that assisted myself and Cynthia in setting up, manning the display for two days (some working double shifts!!) and tear-down: Steve Girard, Sharon Fieber, Tony Tyrkalo, Doug Hunt, Dennis Pringle and Jim Sexsmith. Thanks also to my son and daughter-in-law Brad and Jessie Wolfe for helping make 100 cubic feet of materials fit into the 96 cubic feet in my truck box.

Thanks also to the show organizers who helped bring it all together. We'll see you again next year. 📧

ADMINISTRATION NOTES

by Ernie Townend

This past summer was another successful season with visiting tours, and our volunteer tour guides rose to the challenge, as always. Many thanks to Tony Tyrkalo, Steven Girard, Alan Vanterpool, Dave Stokes, Dave Osborne, Herb Dixon, Jim Brock, Don Weymouth and the staff, Lesley, Aaron and Will. The needs of our visitors were well met by these valued APRA members and staff.

On one occasion a group of students arrived with their leaders, one of whom was very vociferous in her instructions to her charges, and also in her reaction to the aroma in the water tower. That aroma was no match to the aroma from the dead rabbit that Prince, the neighbor's dog, laid almost at her feet. Her reaction was even louder to this event and it was with considerable difficulty I suppressed a great deal of inner mirth.

Twelve groups totalling 361 people plus care givers visited the museum. There were 35 seniors, 74 English Second Language students, 169 students age 5 to 12 and 83 little people under age 5.

I would like to welcome the following new members to the Alberta Pioneer Railway Association: Peter and Margie Rosychuk, Henry Pruss, Ernest Born, Derek Bevan-Stewart and Eric Niemonen. Also former member Robin Lowrie renewed his membership, and Art Hamilton renewed his membership when he visited from Osoyoos.

The current APRA membership now stands at 84.

Museums are alive and growing interpreters and the ARM is no exception. As reported by Herb Dixon in the September/October Issue of The Marker, The Discovery Centre and the Diesel Display were opened at the end of the season. Also, under the direction of Doug Hunt, the Peavey station was moved from outside Morinville to the Museum and is located adjacent to the maintenance of way equipment display.

A mail delivery system has been installed on the station platform and when the pickup equipment is installed on the Mail-Express car, another demonstration of railway operations will be available. Doug's fall/winter projects include the re-roofing of two large cars and the Engineering car, currently stored in both shops 1 and 2. Doug, who is V. P. Car Department, in a recent report said the following: "I feel that this year has seen the biggest improvement to the museum as a whole. This is due to the permanent volunteers and this years summer staff."

Thanks Doug, you said it all. 📧



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This issue of "The Marker" has been sponsored by Leona Baldwin. We thank Leona for her generous contribution - hope you enjoy the issue.

If you wish to sponsor an issue of "The Marker", \$50.00 will pay the printing costs, and \$100.00 the printing and postage. A tax-deductible receipt will be issued. For more details, contact our Secretary, Ernie Townend.

REGULAR MONTHLY APRA MEETING

The first Tuesday of each month at 19:15 hours at Eastglen Composite High School. A gathering for fellowship, videos or slide shows.

VISIT OUR WEBSITE
<http://railwaymuseum.ab.ca>

MORE LOCAL DERAILMENTS OF INTEREST

Part Three of a Series

by Norm Corness

A couple of derailments of interest to yours truly occurred in 1948 and 1949. The first, which proved to be a challenge to the auxiliary crews, happened just west of Hinton in the summer of 1948. Engine #4316 hit a soft spot just past the right angle curve west of Hinton and rolled down the bank. It was still there in August when I took this picture from the train on my way to Vancouver. Crews had to build a track down to the locomotive to facilitate recovery since it was too far away from the main line for the "Big Hook" to be safely secured, as you can see in the picture.



Later in October she arrived at Calder on her way to Transcona and is shown below beside the coal dock on the dead track.



It wasn't until the early summer of 1949 that 4316 arrived back at Calder completely overhauled as shown in the picture in the yard.



Another big recovery job for the auxiliary crews occurred when #3803 hit a broken rail near Uncas, 22 1/2 miles east of Edmonton in August of 1949. Accompanied are two photos of 3803 on its side: a front view and an underneath view.



IN THE NEXT ISSUE OF "THE MARKER"

A FEATURE ARTICLE ON THE HISTORY OF THE CNR HINTON TO JASPER ROUTE

MORE FEATURES AND REPORTS

AN ARTICLE BY YOU?

If you'd like to contribute an article to the next Marker, contact any of the board members listed on the opposite page.

On August 13, 1949 we see 3803 on the dead line at Calder taken from the coal dock, and one showing the cab side that was on the ground.

The building behind 3803 is the Bechel-Price-Calahan warehouse which took over the area during the war - the area that once held two dead-engine tracks. These tracks were formed into one "dead" track parallel to the coal dock - the one 3803 sits on. This engine returned to active service before the end of the year.



A personal footnote: upon the retirement of 3803 and its transfer to the scrap yard in Winnipeg, I acquired the tender number plate, the brass number plate and the headlight. These I have displayed in my rumpus room - the headlight lit on a rheostat. 📷

THE APRA - IT'S THE RAIL THING!

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AS IT WAS - APRA EVENTS OF THE PAST

Articles from past "Markers" excerpted with permission by
Steven Girard

APRA PARK (ALBERTA RAILWAY MUSEUM SITE) 1976 CONSTRUCTION PROGRAM (Original article by Harrie Pollard)

Around 1970 the Association acquired the right-of-way and land we now know as the APRA Park. In the five years which have passed the association has been able to acquire buildings, equipment and track materials. It has been a slow process. Being a volunteer organisation, we have to rely on the members help along with the Executive in a variety of projects.

1975 was significant in the Association's history: About 900 feet of track were laid, making a total of 1000 feet in four years. Regretfully the operations at the Cromdale Car Barns were brought to an end. The Association had to move all the equipment from the barns as quickly as possible to make way for Edmonton's Light Rail Transit (LRT). The executives were able to get temporary storage for the winter, but had to remove our equipment from that site as soon as possible. The board members have been preparing for this move - a storage building was purchased and should keep engines 73 and 1392 and our combine safe and sound.

Over the winter plans were drawn up for the site. A lot more work is yet required to complete these plans.

In 1976, the Association must construct 1800 feet of track to connect the first maintenance building with the existing track. This requires the construction of 1500 feet of new grade and sub-grade. As of yet, the museum has been unable to find anyone to do the work with the limited amount of funds the museum has. If we wait too long we will not get it completed before winter.

A lot of smaller work has been done at the site to prepare the way for the track work, but in the past three years the Association's projects have been able to drag on - we have too much at stake to let this happen to the track construction this year. The new maintenance building for our valuable equipment will cost the Association \$17,000, but without the track work being completed we will have to find another place to store the equipment. 📁

END OF ANOTHER STEAM ERA?

An article in the current "North Shore News" (Vancouver) reports that BC Rail has decided to place Royal Hudson #2860 on "static display" rather than rebuild the locomotive and continue steam operations from North Vancouver to Squamish.

#2860, along with #3716, provided steam power for the popular excursion train, but the Royal Hudson has been out of service since 1999 and reportedly requires a new boiler, and #3817 had "mechanical problems" after a trip in May and is now said to require a new smokebox and boiler.

An estimate of \$1 million has been touted as the cost of immediate work needed on #2860, and the province, who owns both locomotives, has told BC Rail that no funds will be forthcoming for repairs. The decision will also mean the closure of the Royal Hudson steam maintenance shop in North Vancouver.

Sources cite that the problems with both locomotives have been brought about by not being operated properly.

BC Rail is unwilling to invest the dollars required to fix the problems due to a "significant" drop in riders and current financial conditions - and after all, BC Rail is a freight railroad.

Since 3817's exit in May, the excursions have been headed by ex-CP F-unit 4069, and all indications are that this is the way it will stay.

Is there any possibility of ex-CN 6060 moving to the west coast and actually being fully utilised once again, or are we looking at the end of another steam era? 📁

(For more details, see the North Shore News article "BC Rail Blows Off Steam" by Michael Becker at www.nsnews.com)

PRESIDENT'S COLUMN

By Herb Dixon

What a trip!! We were invited by Parks Canada and CN to participate in the Jasper Heritage Station Celebration on October 27th, 2001. This event marked the transfer of ownership of the station from CN to Parks Canada. Ted VanGunst rode xCN F3A 9000 all the way to Jasper in a freight, a day prior to the special train listed below. Ken Jones, Norm Corness, Alan Vanterpool and I were guest conductors on the special train.

Thanks to John Crawford, here are some details of the trip from Walker to Edson as taken from a copy of the train journal.

CN 4766, a GP 38-2 (W), was on the point out of Walker yard; total loads 16, tonnage 1012, length 1298 feet. Speed restricted to 40 M.P.H.

Description: 6060 Steam Special Edmonton-Edson-Hinton-Jasper
Consist:

- RMRS 6060, Steam engine, 4-8-2, xCN u-1-g, Mountain type
- PROX 78974 PROCOR 17,000 gallon water car
- RMAX 9039 Rocky Mountain Rail Equipment Car – Baggage xCN9039
- APXX 7279 Alberta Prairie accommodation car
- CN 103 E9 Executive Diesel
- CN 102 E9 Executive Diesel
- RMR 3224 Rocky Mountaineer Café Coach
- RMR 3030 Rocky Mountaineer Coach-Lounge
- RMR 9511 Rocky Mountaineer Gold Leaf Dome Coach
- VIA 8112 VIA Coach
- VIA 8504 VIA Skyline Dome
- VIA 8402 VIA Diner "ALEXANDRA"
- VIA 8340 Via Manor Sleeper "STUART MANOR"
- CN 15162 "COUREUR DES BOIS"
- CN 94 "GATINEAU"
- CN 15165 "TAWAW"
- CN 15050 "SANDFORD FLEMING"

There was no diesel on the point from Hinton to Jasper.

The Museum prepared handouts to the passengers giving a history of the development of the track from Hinton to Jasper, milepost information on the track, a souvenir card on 9000 and a Railway Heritage Candle. There may be reports in future issues of the Marker from Ted VanGunst, Alan Vanterpool, Norm Corness and Ken Jones.

We were treated with great care and courtesy, the trip was a great success and we enjoyed meeting many railway-oriented people. Our sincere thanks to the organizers: Parks Canada, Town of Jasper and Canadian National Railway Company. 📁

SUMMER 2001 STEAM LOCOMOTIVE OPERATIONS REPORT

By Terry Wolfe, APRA Director and Motive Power Volunteer

Overview: For the third year in a row, the Motive Power Dept. has monitored and recorded the consumables for steam operations (i.e. water, fuel oil, water treatment chemicals, etc.) so as to better understand the costs of operating our steam locomotive CN 1392. Starting in 2001, new and improved measuring systems and devices have increased the recording accuracies of the larger consumables to +/- 1/2 gallon of fuel and +/- 5 gallons of water. Winter maintenance costs are calculated and included as separate line items. Volunteer labour hours are not reflected in the total costs but have also been monitored, recorded and listed as separate items for future planning data. The extremely dry summer meant that all water consumed had to be purchased. Fuel costs have also risen 82% over 2000 prices. This report also includes comparative data covering three years of operation. A full database of information is now being maintained and will be available for future operation and budget planning.

In the 2001 operating season (May 18 through Sept. 3), steam locomotive CN 1392 was under steam and operational a total of 20.5 days in seven separate operating windows. It consumed:

- 5,312 gallons of fuel oil
- 51,870 gallons of water
- 14 3/4 gallons (59 quarts) of water conditioner/treatment
- 44 1/2 lb. of dry chemical oxygen remover
- 8.1 gallons (24 1/2 quarts) of lubricants
- 1,537 1/2 engine crew volunteer hours

In the same period, 1392 also completed 87 revenue trips.

Some Savings Highlights: Boiler water treatment has now been crafted and perfected to predict a controlled window which, during this year's operation, was not exceeded. Treatment costs for 2001 were fully under control and can be predicted for future budget planning.

The investment in new, thicker boiler insulation and attention given to ensuring the tightness of the steam system has paid off with 1392 holding steam pressure and water for up to 14 hours, thus eliminating the need for nightly and morning light-ups. This produced a significant 20% average savings of fuel, water and manpower compared to the previous two years.

It is important to note that, while considering the 2001 season's material consumption, we must also take into account the two students of limited time and experience being trained in the fireman's position. Our operating train has also increased its tonnage, since we now routinely pull two extra cars, amounting to an extra 114 tons.

The following charts lay out the data that was monitored and recorded and, to the best of my ability, are accurate up to an error factor of +/- 1.5%.

Please feel free to direct questions or concerns back to me at your convenience. 📧

2001 STEAM OPERATIONS

	2001 Totals	Average per Day	Average per Hour	Average per Min.
Materials				
Man Hours (engine crew only)	1,537.5	75.0	3.1	
Fuel Used (gallons)	5,312	259.1	38.56	0.6
Water Used (gallons)	51,870	2,530.2	376.55	6.3
Water Chemicals (quarts)	59	2.9	0.43	
O2 Scavenger (lbs.)	44.5	2.2	0.32	
Lubricant Oils (quarts)	24.75	1.2	0.18	
Number of Trips	87	4.5	0.6	
Total Steaming Time (hrs.)	137.75	6.7		
No. of Days Under Steam	20.5			

Costs				
Total Cost Under Steam	\$8,609.45	\$393.63	\$58.74	\$1.70
Fuel (\$1.18/gal.)	\$6,268.00	\$306.00	\$46.00	\$0.76
Water				
(\$0.02/gal - 12,000 gals.)	\$934.00	\$45.54	\$7.53	\$0.13
Water Chemicals (\$7.20/qt.)	\$425.00	\$147.60	\$3.08	\$0.51
O2 Scavenger (\$5.40/lb.)	\$240.00	\$110.70	\$1.74	\$0.29
Lubricants				
(valve oil: \$4.99/qt.)	\$121.00	\$100.45	\$0.88	\$0.01
Cost of Trips	\$93.00	\$88.23	\$65.74	\$1.10
Light-up Costs	\$81.25	\$16.25		
Total Hours of Firing	122.80	6.0		

2001 Subtotals

(Including Operations and Maintenance Costs)

Operations Costs	\$8069.45	\$393.63	\$58.74	\$1.70
2000/2001 Shop Costs	\$2000.00	\$97.56	\$4.07	\$0.07
Total Cost Under Steam	\$10,069.45	\$491.19	\$62.81	\$1.77

Volunteer Costs

Engine Crew	\$28,444.00	\$1,388.00	\$115.63	\$1.93
Train Crew	\$3,444.00	\$202.00	\$33.60	\$0.56

Total Costs (Planning)

Operations, Maintenance and Volunteer Costs	\$41,956.95	\$2,080.28	\$212.03	\$4.25
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NOTES:

Engine Crew costs covers 24 hours of coverage, hostling and maintenance/servicing during operation.

All volunteer costs are calculated as separate items and are only included in planning values.

No morning light-ups due to locomotive holding pressure and water for 12 to 14 hours.

2001 fuel costs have risen 81.6% over previous operating season (from \$0.62/gal. to \$1.18/gal.)

Light-up costs are factored as package boiler fueling.

Maintenance costs incurred during winter 2000/2001 shopping included under "2000/2001 Shop Costs".

(Report continued next page)

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(OPERATIONS REPORT - Continued from page 7)

Three-Year Comparison

Materials	1999	2000	2001	Costs (in dollars)	1999	2000	2001
Man Hours (engine crew only)	1428.0	1080.0	1537.5	Total Cost Under Steam	6933.34	2906.31	8069.45
Fuel Used (gallons)	4466	2973	5312	Total Cost Under Steam (average/min.)	1.09	0.77	1.70
Fuel Used (gallons) – average/min.	0.6	0.5	0.6	Fuel	4868.00	2025.00	6268.00
Water Used (gallons)	50230	38975	51870	Fuel (average/min.)	0.61	0.53	0.76
Water Used (gallons) – average/min.	6.3	6.4	6.3	Water	720.00	216.00	934.00
Water Chemicals (quarts)	121.0	48.0	59.0	Water (average/min.)	0.03	0.03	0.13
O² Scavenger (lbs.)	35.0	26.5	44.5	Water Chemicals	871.00	346.00	425.00
Lubricant Oil (quarts)	48.0	30.0	24.8	Water Chemicals (average/min.)	0.36	0.14	0.51
Number of Trips	63.0	44.0	87.0	O² Scavenger	189.00	143.00	240.00
Total Steaming Time (hrs.)	101.3	77.9	137.8	O² Scavenger (average/min.)	0.08	0.06	0.29
Man Hours (average per hour)	5.2	6.4	3.1	Lubricants	235.00	147.00	121.00
No. of Days Under Steam	11.5	7.0	20.5	Lubricants (average/min.)	0.01	0.01	0.01
				Cost of Trips	110.00	55.00	93.00
				Light-up Costs	50.00	30.00	81.25

