

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
 Registrar

Before The Hon. Mr. Justice Grange
 Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga on the
 Jan. 15 & Feb. 4 day(s) of February 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
1		Order in council 1979 - 3286 & 1979 - 3287. (Vol. 1)
2		List of newspapers advertised in. (Vol. 1)
3		Letter to interested parties and terms of reference. (Vol. 1)
4		Large map showing area Detroit to Agincourt, Ont. (Size: 58" x 35")
5		Map - Puslinch to Mavis Rd. (Size: 60" x 45")
6		Aerial map 200' to 1" Burnhamthorpe Rd. & C.P.R. tracks. (Size : 37" x 37")
7		Aerial map 100' to 1". Burnhamthorpe Road to Erindale Station Road taken Nov. 11/79. (Size : 45" x 42")
8		Aerial map 100' to 1". C.P.R. track crossing left of Erindale Station road taken Nov. 11/79. (Size: 44" x 42")

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
9		Aerial map 100' to 1" - area of Mavis Rd. showing debris from derailment. (Size: 44" x 41")
10		Aerial map - exact area of derailment. (Size: 62" x 42")
11		Aerial map. Erindale Station Road crossing 200 ft. to the inch taken Nov. 11/79. (Size: 25" x 25")
12		Aerial map - depicting Wolfedale Rd., 200 ft. to the inch. (Size: 25" x 25")
13		Aerial map - Intersection of Mavis & C.P. tracks Nov.11/79. (Size: 25" x 25")
* 14	1	Drawing to scale ^(1"=10') showing cars position - derailment. (Size: 48" x 36")
15	2	Drawing of railway track assembly. (Size: 45" x 36")
16		Photos - coloured - 8 scenes of fire. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
17a		Photo - north of site on the west side of Mavis Rd., flame from tank car. (Vol. 1)
17b		Photo - piece of metal in field - water is being projected onto fire. (Vol. 1)
17c		Photo - of accident scene and including fire. (Vol. 1)
18a		Photo - from the north-west corner of intersection and fire hydrant. (Vol. 1)
18b		Photo - from north-east corner looking west. (Vol. 1)
18c		Photo - from south-west corner looking north-east. (Vol. 1)
18d		Photo - east from Mavis Rd. looking at the east side. (Vol. 1)
19a		Photo - view of fire vehicle. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
19b		Photo - from the west side and looking south 5 tank cars at fire. (Vol. 1)
19c		Photo - from the east curb 4 tank cars, 2 monitors and automatic hoses. (Vol. 1)
19d		Photo - from the same position as 19c close up. (Vol. 1)
19e		Photo - aerial photo of accident, fire and water streams. (Vol. 1)
20a		Photo - taken from OPP helicopter from the south looking north on Mavis at tracks. (Vol. 1)
20b		Photo - taken from OPP helicopter showing bldgs. and piece of tank car circled for identification. (Vol. 1)
20c		Photo - over crash site north side of rail - Mavis Rd. (Vol. 1)
21a		Photo - west of site above tracks looking east. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
21b		Photo - looking north across derailment over Hydro Bldg. in south-west corner. (Vol. 1)
21c		Photo - looking from north-west area quadrant and showing chlorine car etc. (Vol. 1)
21d		Photo - aerial photo north-west to south-east. (Vol. 1)
22		Photo - "truck" assembly - wheels and axle. Photo by Toronto Star. (Vol. 1)
23		Photo - mark on tree - taken in backyard 1437 Freeport Drive. (Vol. 1)
24a		Photo - showing shed adjoining property 1437 Freeport Drive. (Vol. 1)
24b		Damaged asphalt. West of Burnhamthorpe Rd. looking to damage at the railway crossing and damage to asphalt. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
25a		Damage to asphalt. Erindale Station Rd. crossing taken just before noon. West side looking east, marks on asphalt on both sides of rail. (Vol. 1)
25b		Damage to track. Centre looking east some skid marks on asphalt. (Vol. 1)
25c		Photo - close up of area where Erindale Station Road east side joins the track showing in detail skid marks. (Vol. 1)
26a		Photo - damage to crossing and track - Wolfedale Rd. crossing. (Vol. 1)
26b		Photo - damage to tracks just west of Wolfedale. (Vol. 1)
27a		Photo taken of bush area - north-east corner of inter-section of Mavis & C.P.R. tracks. (Vol. 1)
27b		Photo. Further north-east showing light tree smashed off as shown in previous photo in background. (Vol. 1)

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Property of COMMISSION OTHERS	DESCRIPTION OF EXHIBIT
27c	Photo. Photographer walking towards tree in 27b. (Vol. 1)
27d	Photo - back of photographer to crash site looking at tank car. (Vol. 1)
27e	Photo - showing patch of disturbed earth close to the edge of the tree line. (Vol. 1)
27f	Showing bush area and tank car in foreground. (Vol. 1)
27g	Photo. Edge of growth of bush. Tank car in centre. (Vol. 1)
27h	Photo of tank car-closer view of 27g. (Vol. 1)
27i	Photo - tank car seen in a south-easterly direction and closer view of it. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
27j		Photo - taken from west side where tank car was lying, depicting extreme close-up view. (Vol. 1)
27k		Photo - from the west end of tank car showing south-east or right side of tank car. Taken Thursday, Nov. 13. (Vol. 1)
28a		Photo of debris - north-east corner - Mavis & C.P.R. tracks Tuesday, Nov. 13/79. Debris in north-east field taken from north of the track looking east. Four pieces of debris. (Vol. 1)
28b		Photo - box car. Edge of bush north of track and east of Burnhamthorpe looking south. Seeing 2 box cars 1 tank car. (Vol. 1)
28c		Photo - Mississauga Parks Dept. - greenhouses. (Vol. 1)
28d		Photo - Mississauga Parks Dept. - bldgs. (Vol. 1)

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29a		Photo. Damaged sheds. Parks building from north-east corner of track looking south-west to Hydro Bldg. (Vol. 1)
29b		Photo - looking south-east towards city of Mississauga. (Vol. 1)
29c		Photo. Portion of tank car. Large debris car K325 at derailment site - looking south-east to north-west. (Vol. 1)
29d		Photo - view of Miss. Parks Dept. and accident site from the top of the hill 180 degrees from photo on 29b. (Vol. 1)
29e		Photo - debris found in unfinished Hydro Bldg., 2nd Flr. Side frame and bolster found in a corner of a Hydro Bldg., 2nd floor. (Vol. 1)
29f		Photo - part of Hydro-Miss. roof. (Vol. 1)
30a		Photo - foreground - orange mark on railway tracks westward from Burnhamthorpe Rd. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
30b		Photo - damage to tracks. (Vol. 1)
30c		Photo - showing position of mile marker 18.3 in relation to Burnhamthorpe Rd. (Vol. 1)
31a		Photo - damage to track and ties at accident site. (Vol. 1)
31b		Photo - damage to track at accident site. (Vol. 1)
32a		Photo - aerial view of Miss. Public Works Bldgs. (Vol. 1)
32b		Photo - aerial view of Miss. Public Works Bldgs. (Vol. 1)
32c		Photo - aerial photo of accident site. (Vol. 1)
32d		Photo - aerial photo of accident site. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
32e		Photo - aerial view looking west across intersection
		on Mavis Rd. and C.P.R. tracks.
		(Vol. 1)
33		Photo of toluene car taken Nov. 15/79.
		(Vol. 1)
34		Photo - close up of chlorine car showing hole.
		(Vol. 1)
35		Photo close up of chlorine car showing CHLOREP crew.
		(Vol. 1)
36		Photo close up of chlorine car showing hole and patches.
		(Vol. 1)
37a		Photo - patches on chlorine car.
		(Vol. 1)
37b		Photo showing patches on chlorine car.
		(Vol. 1)
37c		Photo - close up of valve mechanism gear of chlorine car.
		(Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
37d		Photo - showing how crew effected the patch close to the end of the car. (Vol. 1)
37e		Photo - removing patch. (Vol. 1)
37f		Photo - hole with patch removed. (Vol. 1)
38a		Photo - hole in chlorine car. (Vol. 1)
38b		Photo - closer view of hole in chlorine car than 38a. (Vol. 1)
38c		Photo - slag metal end of chlorine car. (Vol. 1)
38d		Photo - looking into end of chlorine car. (Vol. 1)
38e		Photo - longitudinal view of hole in chlorine car. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
39		Photo - piece of toluene tank car. (Vol. 1)
40a		Photo - tank car CGTX east side Mavis Rd. (Vol. 1)
40b		Photo - upright toluene car NCTX 22541. (Vol. 1)
40c		Photo showing track assembly, bent rail and upended tank car. (Vol. 1)
40d		Photo - scene of damaged tank cars. (Vol. 1)
40e		Photo - scene showing unfinished Hydro Bldg. and damaged tank cars. (Vol. 1)
40f		Photo - scene showing several railway track assemblies and tank car CGTX 63994. (Vol. 1)

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on the ...4th & 5th day(s) of ...Feb.....19 80.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
40g		Photo - close up view of railway track assembly, wheel and tank cars. (Vol. 1)
40h		Photo - showing unfinished Hydro Bldg. on the left, box car across the railway track lines and the Miss. Public Works green houses on the right. (Vol. 1)
40i		Photo - west of Mavis on tracks showing part of end of tank car #K300 and part of train still upright on the rails. (Vol. 1)
	41	Scale model of journal box. (On loan from Chesapeake & Ohio Railway. To be returned upon conclusion of Hearing.)
42		Aerial photo of accident site 3,000 ft. above ground. (Vol. 1)
43		Aerial photo of accident site 1,290 ft. above ground. (Vol. 1)
44		Scale model of eleven acre site covering the accident area. (Size: 98" x 98" on two tables)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
45		Photo - 2 pages - i.e. 8 & 9 of a book entitled "Miracle of Mississauga". (Vol. 1)
46		A piece of a journal stub in a wooden box. Stamped NCTX 22541 on end of stub. (In Box - Size: 19" x 13" x 9"; Weight: 65 lbs.)
47		Photo of a railway wheel and part of an axle. (Vol. 1)
48		Photo of a railway wheel and part of an axle. (Vol. 1)
49		Photo of boy and railway wheels and axle. (Vol. 1)
50		C.P. Railway timetable, Eastern Region. (Vol. 1)
51		Chart B: Yard or train movement in Terminal. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
52		Canadian Pacific "Rules for the Operation, Maintenance, Inspection and Testing of Air Brakes and Communicating Signal Equipment on Motive Power and Work Equipment" - Form 582, May 1, 1975 - Reference: Brake Test, Page 14. (Handbook)
53		Canadian Pacific "Car Inspector's Guidebook", Mechanical Department, Montreal, December 78. A guide for employees inspecting freight cars in terminals or at line points. (Handbook)
54		Canadian Pacific "Uniform code of operating rules" "Revision 1962 - Reference: Speed, Pages 8, 110. (Handbook)
55		Canadian Pacific "General Operating Rules" Form CS 44 - March 1, 1975. Reference: Position in freight or mixed train of cars of dangerous commodities, Section 8, Page 27 (spread sheet). (Handbook)
55a		Canadian Pacific "General Operating Rules" Form CS44 revised Jan. 1/79. (Handbook)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
56		Chart A: Train movement between terminals. (VOL. 1)
57		"Emergency Handling of Hazardous Materials in Surface Transportation" Bureau of Explosives, Sept. 1977 - used by Canadian Pacific. (Handbook)
58		Flow Chart - Canadian Pacific - Instructions and check-list if there is a derailment. (Vol. 1)
59		C.P. Rail - "Procedure governing train accidents, involving dangerous commodities - Rev: 11/78". (Vol. 1)
60		C.P. "code of safety rules and safe practices". (Handbook)
61		C.T.C. 1979-6 Rail. Regulation No. D-B uniform code of operating rules and related matters, amendments. (Vol. 1)
62		Photo of a man inspecting a 'journal' box. (Vol. 1)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
63		C.P. Rail "blank" form 1079A, Notice of "Explosives" and other placarded cars. (Vol. 1)
64		Emergency Response Form (a copy). (Vol. 1)
	65	A photocopy of C.T.C. 1979-5 Rail Regulation, a schedule and an explanatory note. (3 sheets) (Vol. 1)
66		Train orders for #84 dated Nov. 10, 1979. (Vol. 2)
67		Consist list - a photo copy. (Vol. 2)
68		A photocopy of C.P. Rail Form 77. (Vol. 2)
69		Chart - Chatham - East side of train trackage. (Size: 45" x 36")
70		Photocopy of C.P. Rail Consist List Train #54. (Vol. 2)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
71		Copy of C.P. Rail Consist Train #84 out of Chatham. (Vol. 2)
72	→ FED	Schematic: Marshalling of trains, a large exhibit.
72(a)	→ FED	Photo of 72. (Small Roll)
73		Daily Interchange report of cars from CO to CP Chatham - a photocopy. (Vol. 2)
74		Switch list - chessie system - a photocopy. (Vol. 2)
75		Handbook: "Field Manual of the Interchange Rules" A.A.R. (Handbook)
76		Statement of witness, Austin Jones dated Nov. 22/79. (Vol. 2)
77		Photo of a carman putting oil into the journal box. (Vol. 2)
78		Lubrication Manual Standards, Recommended Practices & General Information. A.A.R. (Vol. 2)

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on the ...21st..... day(s) of ...Feb..... 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
79	3	Map of the Chessie System. <i>System Map of the Chesapeake</i> (Vol. 2) <i>Ohio, Baltimore & Ohio & Western Maryland</i> <i>Railroads. 1978.</i>
80		Consist list of dangerous goods cars from Sarnia to Chatham. (Vol. 2)
80A		A clearer copy of exhibit 80 with certain clarifying marks. (Vol. 2)
	81	Freight Waybill #206625. (Vol. 2)
	82	Cars released to C & O. (Vol. 2)
	83	Product loading request. (Vol. 2)
84		Inspectors Daily Report of Outbound Trains Inspected - Sarnia - 11-2-79. (Vol. 2)

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on the 26, 27, 28 day(s) of Feb. 1980.
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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
85		Photocopy - "Original Record of Repairs" dated July 30, 1979. (Vol. 2)
85A		Original Record of Repairs NCTX 22541 Sarnia - Broken hand rail and repack by George Keys. (Vol. 2)
86		Train Profile - a copy. (Vol. 2)
87		Switch list - Chessie System. (Vol. 2)
88		Copy - Time Return and Delay Report of Engine and Train employees dated Nov. 11, 1979. (Vol. 2)
89		Chesapeake & Ohio - Chessie System. Rules and Instructions for Train Handling 1973. (Handbook)
90		Chesapeake & Ohio - Chessie System. Michigan Division - Canadian District Timetable No. 1, July 30, 1978. (Handbook)
91	4	Blue print - C.P.R. - Chatham. East end diamond - layout poles and cable runs dated Dec. 18, 1963. (Vol. 2)

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92 → FED		Roll of Pen Graph recording. Nov. 9, 1979 to Nov. 16, 1979. 24 hour recording. (Roll)
93		East End Interlocking Chatham Signal Pen graph code chart. (Vol. 2)
94		Reading of Signal Pen graph at CP Rail East End Interlocking Chatham. (Vol. 2)
95 → FED.		Roll - Pen graph recording Nov. 9, 1979 to Nov. 17, 1979. 24 hour recording. (Roll)
96		Sketch of tank car - showing where sparks were seen by witness Cheryl Ross. (Vol. 2)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
97		Black Book entitled "Train Handling and Other Instructions Relating to Brake and Communications Signal Equipment C.P. Rail". (Handbook)
98		Consist. - 5 cars lifted and set off at Jellicoe. (Vol. 2)
99		Consist of Train 54 leaving Woodstock. (Vol. 2)
100		Train orders #54 - Nov. 10, 1979 - 3 sheets. (Vol. 2)
100a		Train orders 438, 439 & 441 Quebec St. Train #54. (Vol. 2)
100b		Train orders 444 Woodstock Train #54. (Vol. 2)
100c		Train orders 449 Galt Train #54. (Vol. 2)
100d		Train orders 786, 703, 719 Guelph Jct. Train #54. (Vol. 2)

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on the 4, 5, 6, & 12 day(s) of ... March 19 80

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
101		Photocopy - Form 1079A - 3 pages dated Nov. 10, 1979
101a		"Notice of Explosives and Other Placarded cars". (Vol. 2) Blank Form CP Rail Form 1079A revised 2/74, Notice of "Explosives" and other placard cars. (Vol. 2)
102		Train sheet - Dispatcher's office London (a large scroll). (Roll)
103	5	Track profile - Mileage 56.82 to mileage one, in roll form. (Long Roll)
104	NMC	Measuring stick to the scale of the track profile in exhibit 103. <i>disposed</i> (With Exhibit #103)
105		Side view of Go unit 510. (Vol. 2)
106		Front view of GO unit 510. (Vol. 2)
107		Front view of GO unit 510. (Vol. 2)

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on the ...6..... day(s) of ...March..... 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
108		View from cab looking into rear view mirror on right side of cab - GO unit 510.
		(Vol. 2)
109		View inside cab of GO unit 510 - left to right.
		(Vol. 2)
110		View inside cab of GO unit 510 - right to left.
		(Vol. 2)
111		View inside cab of GO unit 510 - looking forward.
		(Vol. 2)
112		Close up view of engine dials GO unit 510.
		(Vol. 2)
113		Another view of engine dials of GO unit 510.
		(Vol. 2)
114		Partial transcript of radio communications train #54, Nov. 10, 1979.
		(Vol. 2)

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on the 6, 10, 12 day(s) of March 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
115		Exerpts of transcript of radio conversations taken from Dictaphone 4000 tape recording unit - Union Station - 23.20 hrs., Nov. 10, 1979. (Vol. 2)
116		Letter to Train Crew from students of Gr. III & IV, Floradale School dated Nov. 14, 1979. (Vol. 2)
117		Train profile - Nov. 10, 1979 time 20:30. Engineman K. Pruss. (Vol. 2)
118		Photo of left side of van CP Rail CP434045, side view. (Vol. 2)
119		Photo - interior of CP Rail Van CP434045 looking to the end of the caboose. (Vol. 2)
120		Photo interior of CP Rail Van CP434045 looking to the opposite end of EX 119. (Vol. 2)
121		Photo of CP Rail Van CP434045 looking across the interior of the cupola. (Vol. 2)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

..... Thomas B. Millar

..... Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the ..10, 12th.... day(s) ofMar.,..... 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
122		Photo of CP Rail Van CP434045 ladder up into the cupola. (Vol. 2)
123		Photo of CP Rail Van CP434045 looking down and across the cupola, showing the gap between the sides of the cupola. (Vol. 2)
124		Copy of "CP Rail Run-Thru Caboose Report". (Vol. 2)
125		Copy of Report of "Dentention to Trains & Disabled Cars Set Out". (Vol. 2)
126		Register ticket. (Vol. 2)
127		Freight way bills of the 24 cars derailed Nov. 10, 1979. (Vol. 3)
128		Consist of Train #54 as it departed London Nov. 10, 1979. (Vol. 3)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Co.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 13, 17 & 18 day(s) of Mar. 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
129		Large mounted aerial photo of Winston Churchill curve. (Size: 39" x 39")
	130	Large chart of train trackage in plot plan form, covering mileage 25.05 to mileage 20.85 - on a scale of 1 inch to 400 ft. (Roll)
	131	Piece of wire, yellow in colour to a scale of one inch to 400 ft. and scaled to a train length of 6,627 ft. (Wire: 15" in length)
	132	Aerial photo of the curve at Derry Road. Running from the left of the photo is the CPR tracks and half way down the photo is Derry Road. (Size 39" x 39")
	133	Aerial photo of Streetsville. (Size: 39" x 39")
	134	Aerial photo of South Streetsville & Reid Mills. (Size: 39" x 39")
	135	Aerial photo of Eglinton Ave. (Size: 36" x 39")

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Co.

List of exhibits put in at the Hearing of this commission at Mississauga
on the 18th day(s) of Mar. 1980.

"REVISED"

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
136		Aerial photo of Burnhamthorpe Rd. (Size 39" x 36")
137		CP Rail Time Tickets for Larry Krupa covering period Oct. 26 to Nov. 14, 1979. (Vol. 3)
138	<i>missing</i>	Map of Mississauga, published by Rolph-McNally. (Vol. 3)
	138A <i>6</i>	Map of Mississauga - published by Rolph-McNally and <i>manuscript features</i> marked by Richard E. Shibley showing area where certain witnesses reside. (Vol. 3)
139		Copy of witness statement - Nicholas Dionne. (Vol. 3)
140		CP Rail - Carman's Yard Report dated Nov. 10, 1979 - 4 to 12 shift. (Vol. 3)
141		Drawing by witness Albert J. Houston showing area of the wheel where he saw smoke. (Vol. 3)
142		Drawing by witness Albert J. Houston showing area of the wheel where he saw smoke, and marked the drawing with the words, "wheel", "smoke" and "journal box". (Vol. 3)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Co.

List of exhibits put in at the Hearing of this commission at Mississauga
on the 24, 25, 26 day(s) of March 19 80.

Property of COMMISSION	OTHERS	DESCRIPTION OF EXHIBIT
143		Aerial photo of Guelph Junction. (Size 31" x 31")
144		A copy of the joint statement of Alfred J. Houston and Dorothy M. Houston dated Nov. 21st, 1979. (Vol. 3)
145		Synopsis of event recordings of Train 84-54 Nov. 10, 1979. (Vol. 3)
146	→ FED.	Train Sheet - Despatcher's Office Sheet - Windsor to London. (Roll)
147		Bulletin No. 207 - "Enginemen's Books - London Division" dated Nov. 7, 1978. (Vol. 3)
148		Booklet - CP Rail - Haulage Capacity Diesel - Electric and Diesel - Hydraulic Units - Eff. Feb. 1st, 1973. (Vol. 3)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Co. Ltd.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...27...&...31..... day(s) of ...Mar..... 19.80

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
148A		Booklet - CP Rail - Haulage Capacity Diesel - Electric Units. Eff. April 1st, 1976. (Vol. 3)
149		Service Record - G. A. Nutkins. (Vol. 3)
150		Train length of Train Number 54. (Vol. 3)
151		A sheet providing the exact length of five railway cars and giving an error figure for each car. (Vol. 3)
152		Site line plot plan to scale of segment of track, from Guelph Junction to Mavis Rd. (Roll)
153		A piece of wire coloured red and yellow to a given length of the Train Number 54. The red portion is the front end of the train including power units and 33 cars. (Size: 16½" in length)
154		Memorandum - Office of the C.P.R. Superintendent - London. (Vol. 3)
154A		(See page 33)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Co.

List of exhibits put in at the Hearing of this commission at Mississauga
on the 31 day(s) of Mar. 1980

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
	155A	Photo showing red light affixed to car. (Vol. 4)
	155B	Photo showing red light affixed to car from a different angle than the one in Exhibit 155A. (Vol. 4)
	156	Memorandum re the light used on the test train dated March 25th, 1980. (Vol. 4)
	157	Aerial plot plan of the "Inshaw" test. <i>CPRail Eastern</i> (Roll) <i>Rondon Division. Mile 24.0 to 25.0 Belt</i> <i>Subdivision (1" = 48.90')</i>
	157A	Table of view lines used in Exhibit 157. (Vol. 4)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

..... Thomas B. Millar
..... Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Co. Ltd.

List of exhibits put in at the Hearing of this commission at Mississauga
on the 1st day(s) of Apr. 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
154A		Times recorded for test train - showing location, tests 1, 2 and 3. (Vol. 4)
158		Times and speeds - Train Number 54 - Nov. 10, 1979 (Displayed in graphic form). (Vol. 4)
158A		Times and speeds Train Number 54 - Nov. 10, 1979. Dispatchers OS Times "Quebec Street to Guelph Junction", chart recorder times "Drumbo to Erindale Station Road Crossing", Dispatchers radio tape record "Nissouri to West mile board Streetsville". (Vol. 4)
159	G	<p style="text-align: right;"><i>CP Rail, Eastern Region, London Division</i></p> A large roll chart - Mileage 18.6 to 16.5, Galt Subdivision - a plot plan showing details of derailment of Train No. 54 on November 10, 1979. Scale 1" = 100'. (Roll)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar,
Registrar.

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Co. Ltd.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ..2, 3, 8..... day(s) of ..Apr..... 1980.

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Property of		DESCRIPTION OF EXHIBIT
COMMISSION	OTHERS	
	160	Extract covering pages 71 to 84 from the report by Mr. Justice Hall, covering "The Railways' Demands (Trainmen). (Vol. 4)
	161	Railways Arbitration 1973. Supplementary award to the January 16, 1974 award covering the Crew Consist Issue, dated Jan. 8, 1975 by Mr. Justice Emmett M. Hall. (Vol. 4)
	162	Copies of two letters dated March 24, 1980 and March 21, 1980 regarding application of mirrors on GO F40PH locomotives. (Vol. 4)
	163	Documents in the London Division re "hot boxes". (Vol. 4)
	164	Special permit No. 730 (Revision 21) Canadian Transport Commission. (Vol. 4)
	165	Page A13 of Toronto Star dated Friday, March 21st, 1980, covering article "Engineer in 1975 accident Inquiry told". (Note - filed on March 24th, 1980) (Vol. 4)

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

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Thomas B. Millar,
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Co.. Ltd.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...9..... day(s) of Apr. 19. 80

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	Property of COMMISSION OTHERS	DESCRIPTION OF EXHIBIT
171		"Chlorine manual" - published by The Chlorine Institute, Inc. (Vol. 5)
172		Map depicting "Operating Chlorine and Alkali Plants in U.S.A. and Canada". (Vol. 5)
173		Registry of toxic effects of Chemical substances 1978 - page 338. (Vol. 5)
	174	Emergency Response Guide for Dangerous Goods. (Handbook)
	175	Chlorine Institute General Publications List. (Vol. 5)
	176	Statement of The Chlorine Institute, Inc. Before the Federal Railroad Administration Hearing, Washington, D.C., April 13, 1978. (Vol. 5)
177		Diagram - DOT 105A500W non-coiled insulated 90 ton chlorine car. (Vol. 5)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar,
Registrar.

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Co. Ltd.

List of exhibits put in at the Hearing of this commission at Mississauga
on the 11th day(s) of Apr. 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
178		Chlorine Tank Car loading, unloading, air padding, Hydrostatic Testing Edition 1, March 1979. Chlorine Institute pamphlet 66. (Vol. 5)
179		Accident Report - Case 11/67-1 supplement. Issued for members of the Chlorine Institute, Inc. (Vol. 5)
180		Canadian Chlorexp Assignments - Province by province - alphabetically. (Vol. 5)
181		Application for approval and certificate of construction - AAR application No. 23914, applicant Canadian General Transit Company Ltd., for tank cars CGTX 90000 to 90020 inclusive. (Vol. 5)
182		Special permit No. 838 - Canadian Transport Commission dated Feb. 2, 1970. (Vol. 5)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ...Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 14, 15 day(s) of Feb. 1980

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
183		Accident report. Case 3/73-5, issued for the members of the Chlorine Institute Inc. (Vol. 5)
184		Aerial photo of derailment (Nov. 11, 1979) at Mavis Rd. (Vol. 5)
185		Photo of hole in chlorine car. (Vol. 5)
186		A chart depicting chlorine in parts per million with wind speed, showing area size recommended to be evacuated for a given amount of chlorine in tons left in the tank. (Vol. 5)
187		Sketch of method used to remove chlorine vapour from chlorine tank. (Vol. 5)
188		A report prepared for the Ontario Ministry of the Environment dated February 1980. Report prepared by SCIEX Inc. (Vol. 5)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 15, 16 day(s) of Feb. 1980.
2 June 1980

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Property of COMMISSION OTHERS	DESCRIPTION OF EXHIBIT
189	Photo showing tank car in position to receive chlorine from the damaged chlorine car. (Vol. 5)
190	Photo showing a view looking into the chlorine tank. (Vol. 5)
191	Photo showing hole in chlorine tank after patch removed. (Vol. 5)
192	Emergency Mobile Command Meeting Wednesday, November 14, 1979. (Vol. 5)
193	Emergency Response Information Sheet chlorine liquid - Dow Chemical of Canada Ltd. (Vol. 5)
194	Mississauga Incident Mileage 16.5 Galt Subdivision, Canadian Pacific Rail, Nov. 11, 1979 prepared by W. F. Karaskewich, Manager, Dangerous Commodities Assessment. (Vol. 6)
194A	Photocopy of news article published in Toronto Star dated Thursday, Nov. 15th, 1979 - early edition.
194B	Photocopy of news article published in Toronto Star dated Thursday, Nov. 15th, 1979 - late edition. (Vol. 6)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

...Thomas B. Millar.....
Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ...Angus Stonehouse & Co. Ltd.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 16, 17, 21 day(s) of April 1980
2 June 80

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
195		Notes made by Stuart T. Greenwood on his kitchen table Nov. 21st, 1979. (Vol. 6)
196		Emergency Mobile Command Meeting Nov. 15, 1979. (Vol. 6)
197		Emergency Mobile Command Meeting Nov. 16, 1979. (Vol. 6)
197A		Emergency Mobile Command Meeting Nov. 16, 1979 held in OPP trailer and concurred with the contents of news release No. 9 dated Nov. 16, 1979 at 7:40 p.m. (Vol. 6)
198		Emergency Mobile Command Meeting Nov. 18, 1979. (Vol. 6)
199		Equation: The reaction of chlorine with caustic soda takes place according to the following equation. Prepared by Federick Hamlin. (Vol. 6)
200		Peel Regional Police - News Release 1 to 13 inclusive dated Nov. 13, 1979 to Nov. 21, 1979. (Vol. 6)
201		Inspection testing check list - Dow Chemical. (Vol. 6)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter . Angus Stonehouse & Co. Ltd.

List of exhibits put in at the Hearing of this commission at Mississauga
on the .21., .22..... day(s) of .Apr..... 1980..

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
202		Vessel Inspection Data Sheet Dow Chemical - Inspection Report dated Oct. 22, 1978. (Vol. 6)
203		A schedule from a letter of R. E. Shibley to R. P. Armstrong dated Apr. 9, 1980. (Vol. 6)
204		Time record of A. A. Jones. (Vol. 6)
205		CP Rail Form 1124 re hot box Oct. 3, 1979. (Vol. 6)
206		Arrival and Departures Galt Subdivision Nov. 10, 1979. (Vol. 6)
207		CP Rail Galt Subdivision Nov. 10, 1979 Train Movement. (Vol. 6)
208		CP Rail Woodstock Nov. 10, 1979 Train Movement. (Vol. 6)
209		Conductor's report of freight on way trains. (Vol. 6)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Co. Ltd.

List of exhibits put in at the Hearing of this commission at Mississauga
on the22.,23..... day(s) ofApril.....19.80.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
210		CP Rail preliminary report of accident. (Vol. 6)
211		Memo from G. A. Nutkins to R. A. Demers et al dated Sept. 11, 1979. (Vol. 6)
212		Reference to derailment at mileage 18.3 and subsequent pile up of cars at mileage 16.6, Galt Subdivision, November 10, 1979 as a result of overheated R1 Journal on NCTX 22541. (Vol. 6)
213		Engineering report of derailment of train No. 54 at mileage 18.0, Galt Subdivision, Mississauga, Ont., Nov. 10, 1979. (Vol. 6)
214		6 coloured posters published by the Mechanical Dept. of CP Rail 3/78 and styled "What are the five main causes of journal box related derailments?" (Roll)
214A		
214B		
214C		
214D		
214E		

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....

.....Registrar.....

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse. &. Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...24..... day(s) of ...Apr..... 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
215		Letter dated Jan. 17, 1980 - Proposed Non-destructive Testing of Truck Components. (Vol. 6)
216		Letter dated Feb. 12, 1980. Re Non-destructive Testing. (Vol. 6)
217		Ontario Research Foundation - Report No. CSP-79/19 Part I [*] Non-destructive Examination of Components from Tank Car NCTX 22541 for Mississauga Railway Accident Inquiry. Part 2 ^{**} is composed of photographs. These are in separate volumes. (* - Vol. 6) (** - Vol. 7)
218		Letter dated April 11th, 1980 to parties having access to O.R.F. report - re Non-destructive tests. (Vol. 7)
219		AAR-Mechanical Division - Manual of Standards and Recommended Practices. Specification M-101-77. Axles, Carbon Steel - non-heat-treated and heat treated. (Vol. 7)
219A		Table V to exhibit 219. (Vol. 7)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 24, 28 day(s) of Apr. 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
220		Meetings to discuss metallurgical testing of various components believed to have been associated with Tank Car NCTX 22541 dated Apr. 10, 1980. (Vol. 8)
221		List of items at O.R.F. cross-indexed to CP plan RP103 - Inquiry Exhibit No. 159. (Vol. 8)
	222	A list of all CP Rail personnel who attended at the accident site at one time or another. (Vol. 8)
	223	Report prepared by Mr. Kent, Night Chief Despatcher - District of London, dated Nov. 10, 1979. (Vol. 8)
	224	A record of hot boxes and burn-offs Aug. 1, 1979 to date, in Subdivision of Windsor and Galt. (Vol. 8)
	225	A record of CP Rail - Plain Bearing Performance 1979 - also included is the Roller Bearing Performance. The various components are listed and the figures for each, given. (Vol. 8)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar.....
Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ..28..... day(s) ofApr..... 19.....

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
	226	A copy of an order published by Railway Transport Committee, order No. R-14111, dated May 17, 1972 - Ottawa. (Vol. 8)
	227	Canadian Pacific - Preliminary Report of Accident dated Nov. 11, 1979 signed by G. A. Nutkins, Superintendent. (Vol. 8)
	228	CP Rail - Preliminary Report of Accident dated Nov. 13, 1979 - signed by G. A. Nutkins, Superintendent. (Vol. 8)
	229	A memo from G. A. Nutkins to G. A. Bathgate dated March 10, 1980 and attached is a reply to G. A. Nutkins from G. A. Bathgate dated March 24, 1980. (Vol. 8)
	230	A seventeen page document issued by G. A. Nutkins, Superintendent, London Division in connection with derailment, Mississauga, Ont., Train No. 54, Nov. 10, 1979 - document undated. (Vol. 8)
	231	Documents relating to speed and locations of test train. (Vol. 8)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
.....
Registrar
.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 28, 29, 30 day(s) of Apr. 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
	232	Handbook of Operation and Maintenance for Servosafe "Hot Box Detective" three pages - dated Jan. 1958. Two pages of "Bearing Detector System", dated April 1963. Two pages "Wheel Thermo-Scanner Unit" dated Nov. 1961. (Vol. 8)
	233	Extract concerning Rule 1250, styled, Trainmen from the Chessie System. (Vol. 8)
	234	Change in operating rules - published by Chessie System covering Rule 34. (Vol. 8)
	235	Dangerous Commodities - Emergency Response Information - Train Operations London Division. (Vol. 8)
	236	Shell Solvents and Typical Properties - Aromatic Naphthas. (Vol. 9)
	237	Aerial photo of Shell plant and refinery at Sarnia, Ontario. (Vol. 9)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus..Stonehouse.&.Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30th day(s) of Apr. 1980.

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
238	1	Shell Canada - Tank Car - Tank Truck Loading Manual -
	2	Sarnia Refinery.
	3	(Vol. 9)
	4	
239	5	Shell Canada Manual - Bill of Lading Commodity Description
	6	Manual.
	7	(Vol. 9)
	8	
240	9	Product Requisition - Toluene - Car NCTX 22541.
	10	(Vol. 10)
	11	
241	12	Switch List - Tank Truck - Tank Car Loading/Unloading
	13	Summary.
	14	(Vol. 10)
	15	
242	16	Product Loading Request Form.
	17	(Vol. 10)
	18	
243	19	Outage loading table #10067 NCTX 22541, North American
	20	Car (Canada) Ltd.
	21	(Vol. 10)
	22	
244	23	Sarnia Refinery - Invoice Document NCTX 22541 dated
	24	Nov. 9, 1979.
	25	(Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30th day(s) of Apr. 19 80.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
245		Shell Canada - Movement of Empty Tank Cars - dated Feb. 5, 1979 - NCTX 22541. (Vol. 10)
246		Shell Canada. Tank cars sent to shop NCTX 22541. (Vol. 10)
247	9	Sketch of tank car - re "outage" drawn by Kevin Hogan. (ROLL)
248A		Photo showing "derail in unlocked position" (Vol. 10)
248B		Photo showing "derail in locked position" (Vol. 10)
248C		Photo showing chock in position. (Vol. 10)
248D		Photo showing handbrake position. (Vol. 10)
248E		Photo showing a man checking cap. (Vol. 10)
248F		Photo showing steps and ladders. (Vol. 10)
248G		Photo showing setting meter for auto shut off. (Vol. 10)
248H		Photo showing man lowering platform into car. (Vol. 10)
248I		Photo showing "manway" of a tank car. (Vol. 10)
248J		Photo showing man placing spout into car. (Vol. 10)
248K		Photo showing securing to dome of car. (Vol. 10)
248L		Photo showing valve opened to allow product into car. (Vol. 10)
248M		Photo showing temperature being taken. (Vol. 10)
248N		Photo showing sample being taken. (Vol. 10)
248O		Photo showing dome back in place. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30, 1 day(s) of Apr. & 1980.
May

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
248P		Photo showing putting cap back on with wrench 36". (Vol. 10)
248Q		Photo showing placarding in position. (Vol. 10)
249		Memorandum dated Feb. 5, 1980 from Mr. Hall to Murray Davison. (Vol. 10)
250		Sample of Toluene in a small bottle. (Separate Container - Inflammable) RETURNED TO: SHELL CANADA
251		Solvent, Gasoline and Distillate T/C Loading Procedure - Apr. 1980. (Vol. 10)
252		A letter to Shell Canada from W. F. Karaskewich, Canadian Transport Commission dated Apr. 14, 1978.
252A		Balance of Exhibit No. 252. (Vol. 10)
253		Shell's Present Rail Fleet. (Vol. 10)
254		Cars with Friction Bearings in Shell's Fleet Dec. 1979 - showing Standard and Jumbo Tank Cars. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus..Stonehouse..&..Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30, 1, 5, day(s) of Apr. & 19
& 7 May

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
255		Upgrading Shell's Fleet. (Vol. 10)
256		Rider No. 27 forming part of North American (Canada) Ltd., Car Leasing Agreement 7833 dated Jan. 20, 1975. (Vol. 10)
256A		A clearer copy of Exhibit 256. (Vol. 10)
256B		North American Car (Canada) Ltd. Car Leasing Agreement 7834 Amendment No. 1. (Vol. 10)
257		Showing shipments past two years and mileage earning check list for NCTX 22541. (Vol. 10)
258		Tank Car Technical Data NCTX 22541. (Vol. 10)
259		Copy of a Telex to Shell Canada from J. O'Hara, Secretary Railway Transport Committee, C.T.C. Jan. 19, 1980, and reply dated Jan. 25, 1980 to the C.T.C. (Vol. 10)
260		Trip analysis for NCTX 22541. (Vol. 10)
260A		A typed copy of Exhibit 260. (Vol. 10)
261A		Photo chlorine tank taken by John Teggart, Shell Canada, who took all three photos. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
.....
Registrar
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Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 5 day(s) of May 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
261B		Photo of a hose laying over debris near the chlorine tank.
		(Vol. 10)
261C		Photo of ladders against the end of the chlorine tank.
		(Vol. 10)
262		A recap of the involvement of Superior Propane at the
		train derailment in Mississauga, Nov. 11, 1979 to
		Nov. 14, 1979.
		(Vol. 10)
263		Tank Car loading procedures.
		(Vol. 10)
264		Sarnia switch list of Dome Petroleum.
		(Vol. 10)
265		Tank Car Inspection Report dated Nov. 7th, 1979.
		(Vol. 10)
266		Dome Petroleum Ltd. - Shift Report dated Nov. 7, 1979.
		(Vol. 10)
267		Outage Table - Dome Petroleum - Mar. 22, 1978.
		(Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

..Thomas B. Millar.....
..Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...5...6..... day(s) of ..May..... 19..80..

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
268		Outage Table (office use only) Dome Petroleum NCTX 33168. (Vol. 10)
269		Dome Petroleum Outage for Jumbo Tank Cars. (Vol. 10)
270		Tank Car Loading Meeting - Feb. 25, 1980. Dome Petroleum - signed by T. L. Classon. (Vol. 10)
271		Invoice from Dome Petroleum to Gulf Canada. (Vol. 10)
272		Invoice from Gulf Oil to Shell Canada. (Vol. 10)
273		Chlorine Loading Procedure - Dow Chemical. (Vol. 10)
274		Test sealing CL2 Tank Cars - Dow Chemical. (Vol. 10)
275A		Chlorine Tank Car Loading Record Nov. 8, 1979. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 5, 6 day(s) of May 1980

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
275B		Chlorine Tank Car Loading Record Nov. 8, 1979. (Vol. 10)
276		Bill of Lading - Dow Chemical of Canada. (Vol. 10)
277		Chlorine Tank Car History - Sarnia, Ontario. (Vol. 10)
278		Tank Car Travel Log - Dow Chemical. (Vol. 10)
279		Certificate of Test - Tank and Safety Valve. (Vol. 10)
280		Pressure type tank car servicing Oct. 21, 1978. (Vol. 10)
281		Chlorine Tank Car Vessel Inspection Report dated Oct. 22, 1978. (Vol. 10)
282		Work Sheet kept by Cliff Carpenter dated Oct. 29, 1979. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 6, 7, 8 day(s) of May 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
283		A letter entitled Productions to R. P. Armstrong, Q.C. from Shibley, Righton et al and signed R. E. Shibley, Q.C. dated Apr. 9, 1980. (Vol. 10)
284		Large chart of C & O train track yard at Sarnia. (Size: 48" x 36")
285A		Photo - Old Marshalling track C & O Yard, Sarnia. (Vol. 10)
285B		Photo - C & O Yard facing south. (Vol. 10)
285C		Photo - C & O Yard Sarnia showing #11 and #12 tracks. (Vol.10)
285D		Photo - C & O Yard - Sarnia showing RIP track buildings on the right. (Vol. 10)
285E		Photo - C & O Yard Repair Track Bldg. A & B. Repair track "C" holds 5 - 6 cars. (Vol. 10)
286		Booklet - Hazardous Materials Regulations excerpted for Railroad Employees, published by Bureau of Explosives, A.A.R. (Handbook)
287A		Photo - Storage Bin for Dry Lubricator Pads in Bldg. "A" C & O RIP Sarnia. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 8, 12 day(s) of May 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
287B		Photo Soaking Bin in "A" Bldg. C & O RIP Sarnia. (Vol. 10)
287C		Photo - Lube Pad Soaking Bins, C & O RIP Sarnia. (Vol. 10)
288		Repairs to cars in accordance with A.A.R. rules - C & O Railway Company. (Vol. 10)
289		Original Record of Repairs CGTX 11081 Sarnia - Repack by George Keys. (Vol. 10)
	290	Bad Order Card - Record of Repairs (Vol. 10)
291		Car Inspector's Original Record of Repairs (Vol. 10)
292		Mississauga Fire Dept. - Hazardous Material Reference Books (Vol. 10)
293A		Photo - wreckage, caustic soda truck, water spray (Vol. 10)
293B		Photo - wreckage, hose line and generator (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar.....
Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 12, 13..... day(s) of May..... 19.80

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
293C		Photo - wreckage, East of tank car facing south-west (Vol. 10)
293D		Photo - wreckage, Patch showing water spray and air line hose (Vol. 10)
294A		Photo - North side wreckage Crane hooking into tank car (Vol. 10)
294B		Photo - Tank car wreckage from north side (Vol. 10)
294C		Photo - East to west from north side of wreckage (Vol. 10)
294D		Photo - North side base showing Chlorine Putty. (Vol. 10)
294E		Photo - Identical to 293C. (Vol. 10)
294F		Photo - West of Mavis Rd. truck parked by Tank 14 (Vol. 10)
294G		Photo - Photo - North side 3 tank cars, hose and hydro structure in background (Vol. 10)
294H		Photo - CP Crane and 2 tank cars #22 and 24 (Vol. 10)
294I		Photo - West end of wreck and CP Crane (Vol. 10)
295		Book - Emergency Guide for "Selected Hazardous Materials" (Handbook)
296		Photocopy - from National Fire Protection Association on Hazardous Chemicals (Vol. 10)
297		- "Bureau of Explosives" Information on Bureau (Vol. 10)

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
 Registrar

Before

The Hon. Mr. Justice Grange
 Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
 on the 13, 14, 15 day(s) of May 1980
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Property of COMMISSION	OTHERS	DESCRIPTION OF EXHIBIT
298		Book (large) Bureau of Explosives Tariff 6000, Hazardous Materials Regulations Air, Rail, Highway and Water. (Handbook)
299		Photocopy - "Transportation Emergency Assistance Plan" by Canadian Chemical Producers Association. (Vol. 10)
	300	List of Members of the A.A.R. Tank Car Committee of July 1, 1979. (Vol. 10)
	301	List of Members of the A.A.R. Tank Car Committee of July 1, 1978. (Vol. 10)
302		Plaque Card 'Dangerous' - Toluol. (Vol. 10)
303		Plaque Card - 'Dangerous' - Propane. (Vol. 10)
304		Plaque Card - 'Dangerous' - Chlorine. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 20 day(s) of May 1980

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
305		Plaque Card - 'Dangerous' - Caustic Soda. (Vol. 10)
306		Booklet Dow Chemical - Emergency Response System. (Vol. 10) RETURNED TO: DOW CHEMICAL
307		Nov. 12/79 - Phone Tape Canniff and Johnson. (Vol. 10)
308		Nov. 13/79 - Phone Tape Canniff and Johnson. (Vol. 10)
309		Nov. 13/79 - Phone Tape Canniff and Johnson. (Vol. 10)
310		Nov. 14/79 - Phone Tape Canniff and Johnson. (Vol. 10)
311		Nov. 14/79 - Phone Tape Canniff and Johnson. (Vol. 10)
312		Nov. 16/79 - Phone Tape Canniff and Johnson. (Vol. 10)
313		Dow - Loading Record Tank Car #90066. (Vol. 10)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 21, 22 day(s) of May 1980

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
314		Report from Prof. Smith of Queen's University re proposed testing of chlorine car. (Vol. 10)
	315	Handwritten notes Ronald W. Johnson. See 168 & 168B. (Vol. 10)
316		Memorandum dated Nov. 14, 1979 signed by G. A. LePage, Supervisor Air Brakes and Director of Dangerous Commodi- ties. (Vol. 10)
317-1		Tank Car Incident Report NCTX 22541 (Vol. 11)
317-2		Tank Car Incident Report C & O 526870 (Vol. 11)
317-3		Tank Car Incident Report CGBX 6061 (Vol. 11)
317-4		Tank Car Incident Report CGBX 6064 (Vol. 11)
317-5		Tank Car Incident Report CGTX 14467 (Vol. 11)
317-6		Tank Car Incident Report CGTX 14409 (Vol. 11)
317-7		Tank Car Incident Report CGTX 90009 (Vol. 11)
317-8		Tank Car Incident Report UTLX 29327 (Vol. 11)
317-9		Tank Car Incident Report NCTX 22511 (Vol. 11)
317-10		Tank Car Incident Report NCTX 20750 (Vol. 11)
317-11		Tank Car Incident Report NCTX 22001 (Vol. 11)
317-12		Tank Car Incident Report UTLX 29633 (Vol. 11)
317-13		Tank Car Incident Report NCTX 33168 (Vol. 11)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 22nd 26th day(s) of May 1980.

Property of COMMISSION OTHERS	DESCRIPTION OF EXHIBIT
317-14	Tank Car Incident Report CGTX 63994 (Vol. 11)
317-15	Tank Car Incident Report UTLX 46438 (Vol. 11)
317-16	Tank Car Incident Report CN 545051 (Vol. 11)
317-17	Tank Car Incident Report UTLX 98974 (Vol. 11)
317-18	Tank Car Incident Report UTLX 29560 (Vol. 11)
317-19	Tank Car Incident Report UTLX 29568 (Vol. 11)
317-20	Tank Car Incident Report UTLX 81832 (Vol. 11)
317-21	Tank Car Incident Report UTLX 90364 (Vol. 11)
317-22	Tank Car Incident Report UTLX 286 (Vol. 11)
317-23	Tank Car Incident Report UTLX 29552 (Vol. 11)
317-24	Tank Car Incident Report NCTX 33123 (Vol. 11)
318	Railroad Accident Report - Re Derailment of CP Railways Train No. 54, Nov. 10, 1979, prepared by D. M. Lucas. (Vol. 11 & 12)
318A	Original 44 photographs of those filed in Exhibit 318. (Vol. 13)
319	Memorandum re Mississauga affair Nov. 11, 1979 signed by G. A. LePage. (Vol. 13)
320	Memo for file - Cars transhipped at scene of Mississauga derailment, Nov. 10, 1979. (Vol. 13)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 22nd & 26th & 27th day(s) of May..... 19 80.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
321		Photo - chlorine tank car CGTX 90009, Nov. 14, 1979 showing floodlights and other gear. (Vol. 13)
322		Photo - another view of chlorine tank car shown in Exhibit 321, showing scaffolding, Nov. 14, 1979. (Vol. 13)
323		Key for photographs taken at the scene of the Mavis Road derailment site, November 13 and 14, 1979. (Vol. 13)
324		Biographical Data - D. M. Lucas MSc., Director, Centre of Forensic Sciences. (Vol. 13)
325		In the Swedish language. (Vol. 13)
325A		English translation of Exhibit 325 - Models for the calculation of chlorine gas leakage from pressure tank. (Vol. 13)
325B		Leakage rate (Kgms/Min) (Vol. 13)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 26, 27 day(s) of May 1980.

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Property of COMMISSION OTHERS	DESCRIPTION OF EXHIBIT
325C	Total Leakage (Kgms) (Vol. 13)
325D	Application of Swedish model to a 90 ton chlorine car. (Vol. 13)
326	Estimation of the ground level chlorine concentration from atmospheric dispersion in thermal plumes. (Vol. 13)
326A	Estimation of the ground level chlorine concentration from atmospheric dispersion in thermal plumes - Data - chlorine release data. (Vol. 13)
327	Estimation of the TNT equivalent yield of the B.L.E.V.E.'s subsequent to the derailment at Mississauga. (Vol. 13)
328	Estimation of the maximum chlorine discharge rate from the punctured tank car CGTX 90009. (Vol. 13)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the ... 27, 28 day(s) of ... May 19 80.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
329		Biographical data - Allan W. King, Ph.D. in Mining Engineering, Queen's University, Kingston. (Vol. 13)
330		Curriculum Vitae Professor John Lee, Mechanical Engineering & Director of Shock Wave Physics Research Laboratory. (Vol. 13)
	331	Photo car NCTX 33123. (Vol. 13)
	332	Photo UTLX 29568. (Vol. 13)
	333	Photo UTLX 29560. (Vol. 13)
	334	Photo - showing patch on chlorine car at a distance. (Vol. 13)
	335	Photo close up of chlorine car CGTX 90009. (Vol. 13)
	336	Photo - view of wreck from south side indicating hose on possible location of chlorine car CGTX 90009. (Vol. 13)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter . Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 28, 29 day(s) of May 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
[337	Photo - Bottom of CGTX 90009 with rail penetrating
		jacket and insulation.
[		(Vol. 13)
[	338	Photo Tank Car CGTX 14409 (caustic soda)
		(Vol. 13)
[	339	Photo - Tank Car CGTX 14467 (caustic soda)
		(Vol. 13)
[	340	Photo - Tank Car CGTX 90009 (chlorine)
		(Vol. 13)
[	341	Photo tank cars. The one on the left is believed to
		be the chlorine car.
[		(Vol. 13)
[	342	Curriculum vitae and present duties of Wiemer
		Karaskewich, Manager, Dangerous Commodities, C.T.C.
[(Vol. 13)
[343	Terms of reference dated Apr. 15, 1972, for an Inquiry.
		(Vol. 13)
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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30..... day(s) of May..... 1980.
2 & 3 June 1980

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
344		Railway Transport Committee - order number R20471 - Apr. 18, 1975. (Vol. 13)
345		Photo - chlorine car - at a distance with ladders against it. See similar photo in Ex. 294E. (Vol. 13)
346		Photo - close up of chlorine car showing patches - see also Ex. 36. (Vol. 13)
347		Photo - another view of Ex. 346 from a different angle. (Vol. 13)
348		Employment Designation - C.P.R. Derailment, Sgt. T. Richmond, #11 Division. (Vol. 13)
349		Material Requisition - Check Form Function dated Aug. 5, 1970 - C & O Railway Co. (Vol. 13)
350		Car Inspector's original record of repairs dated 1/22/79. NCTX 22541. (Vol. 13)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus..Stonehouse.&.Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ..3..4..... day(s) of ...June.....1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
351		Car Inspector's original record of repairs dated 4/17/79. NCTX 22541. (Vol. 13)
352		Car Inspector's original record of repairs dated 5/5/79. NCTX 22541. (Vol. 13)
353		Curriculum Vitae - David Jones, Q.C., Commissioner - Canadian Transport Commission. (Vol. 13)
354		Mississauga Railway Accident Inquiry Submission of Railway Transport Committee. (Vol. 14)
354A		Volume two of two. Submission of Railway Transport Committee. (Vol. 14)
355		Railway Transport Committee Initial Report of the Railway Safety Inquiry. (Vol. 14)
356		Railway Transport Committee. Third Report of the Railway Safety Inquiry. (Vol. 14)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...4...5.....day(s) of ...June.....1980

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
357		Railway Transport Committee Order R22773 dated
		April 23, 1976.
		(Vol. 14)
358		A report of an Inquiry under section 226 of the
		Railway Act - Derailment of C.P.R. train at Flat Creek,
		B.C., November 26th, 1977.
		(Vol. 15)
359		Dangerous Commodities Accidents (all railways) 1973 - 1979.
		(Vol. 15)
360		Derailments (all railways) by causes 1973 - 1979.
		(Vol. 15)
361		Derailments (all railways) caused by equipment 1973- 1979
		(Vol. 15)
362		Derailments - Reported to the R.T.C. for years 1970 - 1979.
		(Vol. 15)
363		Derailment related to train miles and gross ton miles.
		Years 1956 - 1978.
		(Vol. 15)
364		Accidents by type - 1956 to 1979.
		(Vol. 15)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

ReporterAngus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...5..... day(s) of ...June.....1980.

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
365		Derailments per billion gross ton miles by cause - 1956 - 1978. (Vol. 15)
366		Crossing accident statistics - 1956 - 1978. (Vol. 15)
367		Table 6 - Collisions related to train miles and gross ton miles. 1956 - 1978. (Vol. 15)
368		Railway Transport Committee - May 10, 1973. In the matter of the Public Disclosure of Railway Accident Investigation Reports - Heard at Ottawa July 16 and July 21, 1971. (Vol. 15)
369		A.A.R. Running Repairs 6/4/74 to 10/16/79. (Vol. 15)
370		Computer print out sheets from which Exhibit 369 is compiled. (Vol. 15)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas..B...Millar.....
Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus..Stonehouse..&..Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 5th day(s) of June 19 80.

Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
371		Telegram to F. L. Lassonde from W. Mummery - C.P. Rail Montreal dated Nov. 27, 1979. (Vol. 15)
372		Foreign Car Repair Billing - NCTX 22541. (Vol. 15)
373		Contract repair data - 11/3/69 to 3/22/79. (Vol. 15)
374		Development of Application of Roller Bearings on Freight Cars. (Vol. 15)
375		A.A.R. - Tank Car Bottom Fitting Protection - Revision. (Vol. 15)
376		Construction and Maintenance File from North American Car. (Vol. 15)
377		Letter to O'Hara of C.T.C. from N. American Car. (Vol. 15)

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....

.....Registrar.....

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...5, 9..... day(s) of ...June..... 1980.

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
378		Photo stencil on tank car. (Vol. 15)
379		Mississauga Derailment Nov. 10/79 file produced by Fred Lassonde. (Vol. 16)
380		Curriculum Vitae - John T. Gray, Q.C. - Chairman, Canadian Transport Commission. (Vol. 16)
381		A comparison table in billions of gross ton - miles - C.N.R. vs. C.P.R. (Vol. 16)
382		R.T.C. Distribution of person - years (Based on 215, eff. June 1st, 1980) (Vol. 16)
383		Memo (Nov. 10, 1979) to J. T. Gray, Q.C. from A. G. Hibbard R.T.C. re derailment Nov. 10, 1979 on C.P. rail at Mississauga. (Vol. 16)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 9, 10 day(s) of June 19 80

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
384		Railway Accident Information Report - Derailment - C.P.R. Nov. 10, 1979. (Vol. 16)
385		Section 27 - Narrative Statement of Facts code 5149 8101 44. (Vol. 16)
386		Investigation findings of L. B. MacDonald, Regional Accident Investigation Officer. Project 5149 8101 44. (Vol. 16)
387		Tank car movement from Sarnia. (Vol. 16)
388		The Ninth Annual Report of the Canadian Transport Commission 1975. (Vol. 16A)
389		The Tenth Annual Report of the Canadian Transport Commission 1976. (Vol. 16A)
390		The Eleventh Annual Report of the Canadian Transport Commission 1976. (Vol. 16A)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
.....
Registrar
.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonenouse & Company
.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ..10..... day(s) of ...June.....1980..

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
391		The Twelfth Annual Report of the Canadian Transport Commission 1978. (Vol. 16A)
392		The Thirteenth Annual Report of the Canadian Transport Commission 1979. (Vol. 16A)
393		C.T.C. - Transportation Operations Report RTC-50. (Vol. 16)
394		C.T.C. - Car Equipment Inspection Report - RTC 33A. (Vol. 16)
395		C.T.C. - Car Equipment Inspection Report RTC 33. (Vol. 16)
396		C.T.C. - Motive Power Inspection Report RTC 23. (Vol. 16)
397		C.N. - Equipment Department - Equipment Defects reported by RTC Inspector dated June 3, 1980. (Vol. 16)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 10 day(s) of June 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
398		C.T.C. - Dangerous Commodity Installation Inspection - RTC-52. (Vol. 16)
399A		Check Sheet - Liquefied Petroleum Gas Installation - Regulations E10, E16, 031. (Vol. 16)
399B		Check Sheet - Flammable Liquid Storage and Transfer - Regulations E10, E16 and 032. (Vol. 16)
399C		Check Sheet - Anhydrous Ammonia Installations - Regulations E10, E16, 031. (Vol. 16)
399D		Check Sheet - Ammonium nitrate and ammonium nitrate mixed fertilizer storage - Regulations 036. (Vol. 16)
400		C.T.C. - Hydrostatic Retest Equipment Inspection Report. (Vol. 16)
401		C.T.C. - Railway Transport Committee - Heating and Power Boiler Inspection Report. C.T.C. 0-13. (Vol. 16)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 10, 11 day(s) of June 1980

"REVISED"

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
402		C.T.C. - Air Reservoir, Heating and Power Boiler Inspection Report, RTC-13. (Vol. 16)
403		Pilot Project - Inspection of Railway Cars in the Toronto Yards. Feb. 2nd to March 12th, 1976. (Vol. 16)
404		Railway Organization and Programs Related to Safety - Rail Safety Study Report No. 9, Feb. 1975. (Vol. 17)
405		Incoming and outgoing Telex messages to C.T.C. re Mississauga mishap Nov. 10/79. (Vol. 17)
406		Phase I Final Report - Systems Safety Subcommittee - December 1978. (Vol. 17)
407		Bill C-18 - An act to promote public safety in the transportation of dangerous goods. (Vol. 17)
407(a)		Bill C-18 as passed on July 16, 1980 by the House of Commons. (Vol. 17)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter . Angus. Stonehouse. & . Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...11, 12.....day(s) of ...June.....19. 80.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
408		Schematic drawing of a Eureka lubricator pad as used in Exhibit 41. (Vol. 17)
409		Quarterly Hot-Box and Performance Report for 1979 - Solid Bearing Report Totals. (Vol. 17)
410		A.A.R. Research Dept. Report LT-81, Laboratory Investi- gation of The Eureka Journal Lubricator, Dec. 1965. (Vol. 17)
411		Lubrication Pad - Tested (Plastic Bag). (In Separate Bag)
412		Production Book on NCTX 22541. (Vol. 18)
413		Comparison of Manufacturing Tolerances for 6 x 11 and 6½ x 12 Lubricator Pads. (Vol. 18)
414		Comparison of 6 x 11 and 6½ x 11 Lubricator Pad (and core) Length. (Vol. 18)

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Registrar

Before The Hon. Mr. Justice Grange
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Reporter ..Angus Stonehouse & Company.....

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
415		A.A.R. Manual of Standards. Typical plain bearing axle journal showing radii and collar end thrust surface common to all sizes of axles. (Vol. 18)
416		A.A.R. Wheel and Axle Manual Fig. 2A.3 PB. (Vol. 18)
	417	Statistics of Train Accidents - CP Rail for years 1967 to 1979 dated May 14, 1980. (Vol. 18)
418		Railroad Safety - U.S. - Canadian comparison. (Vol. 18)
	419	A list of all chemicals used by Metro Toronto on a daily or otherwise basis and mode of transportation dated Feb. 28, 1980. (Vol. 18)
	420	A letter dated Dec. 11, 1979 from B. A. Bonser, Fire Chief Toronto to R. S. Allison, Vice President, CP Rail. (Vol. 18)

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
	421	A letter to A. A. Smail, C.N. Rail dated Dec. 11, 1979 from B. A. Bonser, Fire Chief of Toronto. (Vol. 18)
	422	A letter from A. A. Smail, General Superintendent, Transportation dated Dec. 27, 1979 to B. A. Bonser, Fire Chief, City of Toronto. (Vol. 18)
	423	CP Rail Annual Report 1978. (Vol. 18)
	423A	C.N.R. Annual Report 1978 (Vol. 18)
	424	CP Rail Annual Report 1979. (Vol. 18)
	424A	C.N.R. Annual Report 1979. (Vol. 18)
	425	List of Special Dangerous Commodities. (Vol. 19)
	426	CP Rail - Railway Transport Committee - Review of Railway Safety dated Ottawa July 31, 1979. (Vol. 19)
	427	Notes of Inspector King - prepared between Nov. 11 and 18th, 1979. (Vol. 20)

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Property of COMMISSION	OTHERS	NO.	DESCRIPTION OF EXHIBIT
		428	Dangerous Commodities: Transportation and Risks. (Vol. 20)
		429	Curriculum Vitae - Eugene Kunz. (Vol. 21)
		430	Accident Report - Youngstown, Florida, Feb. 26, 1978. (Vol. 21)
		431	Evolution of Tank Car Design Through Engineering - by Frank J. Heller. (Vol. 21)
		432	ASME Publication - Latest Engineering in Tank Car Design - by Frank J. Heller. (Vol. 21)
		433	Marsh Rail Car Services, Inc. - Report of Crosby JQ 1½ Safety Valve CGTX 90009. (Vol. 21)
		434	Vapor pressure - temperature characteristics for propane. (Vol. 21)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
435		Eleven colour photographs of tests done by Allan King, Sutcliffe, Alta. (Vol. 21)
436		Hawker Siddeley Canada - History tank cars. NCTX 22523 - 22542. (Vol. 21)
437		Canadian General Transit Co. History tank cars. CGTX 90000 to 90020. (Vol. 21)
438		AAR - Manual of Standards - Specifications for Tank Cars - M-1002. (Vol. 21)
439	10	<i>Hawker Siddeley Canada Ltd. Trenton N.S.</i> Manufacturers Record of Qualification Test of Wilding Procedures and Operators. <i>Blueprint of a 20000 gal tank.</i> (Vol. 22) <i>1966.</i>
440	11-28	Life History - design, drawings, manufacture and testing tank car CGTX 90009. (Vol. 23)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
441	29-44	Drawings relating to design, manufacture and testing of cars - UTLX 29327. (Vol. 23)
442	X	Drawings relating to design, manufacture and testing of cars UTLX 29633 and Car UTLX 29327. <i>deposed</i> (Vol. 24)
443	47-50	Application for Approval and Certificate of Construction - Hawker Siddeley Canada - Trenton, Nova Scotia. Drawings relating to design, manufacture and testing of rail cars NCTX 33166 to NCTX 33179 inclusive. (Vol. 24)
444		Materials Study On Steels Used in Tank Car Construction - AAR Report RA-03-5-33 Aug. 21, 1975. (Vol. 25)
445		Fracture Properties of Tank Cars Steels. Report AAR RA-03-32 Aug. 20, 1975. (Vol. 25)
446		Curriculum Vitae - Anthony Cullen, Ph.D. Radiation Biology, University of Waterloo. (Vol. 25)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
447		Report on visibility of a burning journal box at night. Test conducted May 7, 1980, Willowbrook Yard, Sarnia, Ont. (Vol. 25)
448		Photo - close up of test journal - under yard lights at night. (Vol. 25)
449		Layout of Willowbrook Yard - Shop track area. (Vol. 25)
450		Photo of test light. (Vol. 25)
451		Photo of fire in journal box. (Vol. 25)
452		Photo at a distance of flames from journal box under test. (Vol. 25)
453		Photo at a distance with camera out the window. (Vol. 25)

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Property of		DESCRIPTION OF EXHIBIT
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454		Photo - another view of Exhibit 453. (Vol. 25)
455		Photo of fire in journal box - taken from the GO Unit 510. (Vol. 25)
456		Photo of fire in journal box taken from the GO Unit 510. (Vol. 25)
457		Photo of fire in journal box at approximately 2,000 feet. (Vol. 25)
458		Photo of fire in journal box taken at a slightly different location. (Vol. 25)
459		Weather Report - Environment Canada for Nov. 10th, 1979. (Vol. 25)
460		Weather Records - Toronto International Airport May 7, 1980 at 2,100 hours local and May 8th at 0300 hours local time. (Vol. 25)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
461		Photo of "flare" used in tests by Dr. Cullen. Mar. 1, 1980. (Vol. 25)
462		Photo of camera in cab of GO Unit 510 Mar. 1, 1980. (Vol. 25)
463		Photo of camera in cab of GO Unit 510 pointing at outside mirror on right side. Mar. 1, 1980. (Vol. 25)
464A		Photograph taken through Engineer's window looking to the rear. Mar. 1st, 1980. (Vol. 25)
464B		Photograph - Enlargement of 464A. (Vol. 25)
465A		Photograph taken Mar. 1st looking back along the right-hand side of the train. GO Unit 510. (Vol. 25)
465B		Photograph - Enlargement of 465A. (Vol. 25)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
466A		Snapshot-sized photograph taken Mar. 1st from cab of GO Unit 510. (Vol. 25)
466B		Photograph - Enlargement of 466A. (Vol. 25)
467		Report - Destructive Testing - NCTX 22541 dated June 12, 1980 - T.R. Wood. Part I - Destructive Testing of components. (Vol. 25) Part II - Composed of photographs at the various stages of testing. These are in two separate volumes. (Vol. 26)
468		Minutes of Proceedings and Evidence of the Standing Committee on Transport. Respecting Bill C-18, an Act to promote public safety in the transportation of dangerous goods. (Vol. 26)
469		Transport Canada - Information and Emergency Centre Call Report - re the incoming report on the Mississauga mishap Nov. 10, 1979 at 0300 hrs. Nov. 11, 1979. (Vol. 26)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
470		Documentation made by and received from companies manufacturing chemicals or associations representing the same with respect to proposed legislation and regulations. Transport Canada May 29, 1980. (Vol. 26)
471		Manual of Standards and Recommended Practices Section H - Journal Bearings and Lubrication 1978. (Vol. 27)
472		Manual of Standards and Recommended Practices Section G - Wheels and Axles 1978. (Vol. 27)
473		Manual of Standards and Recommended Practices Section G, Part II, Wheel and Axle Manual Dec. 15, 1978. (Vol. 27)
474		Manual of Standards and Recommended Practices Section D, Truck and Truck Details. (Vol. 28)
475		Manual of Standards and Recommended Practices Section D, Part II - Designating Design Features for Side Frames and Truck Bolsters Oct. 1, 1978. (Vol. 28)

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Reporter Angus Stonehouse & Company
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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
476		A.A.R. - Report of Committee on Lubrication of Cars and Locomotives May 23, 1952. (Vol. 28)
477		Letter dated May 18, 1967 from the Vice President of Operations and Maintenance Dept. enclosing report of Special Task Force. (Vol. 28)
478		Report of the Association of American Railroads (part of report circular V-1531) (Vol. 28)
479		Curriculum Vitae - T. D. Ellison, Transport Canada. (Vol. 28)
480		Transportation of Dangerous Goods Program - Submission to M.R.A.I. presented by T. D. Ellison, Director, Transportation of Dangerous Goods Branch. (Vol. 28)
481-1		Third draft of Volume I of the proposed Regulations governing the transportation of dangerous goods. (Vol. 29)

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Reporter Angus Stonehouse & Company

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
481-2		Third draft of Volume II, Part I. Packaging specifica- tions. (Vol. 30)
481-3		Second draft of Volume I - Lists. (Vol. 31)
481-3A		List A - English. Index of Dangerous Goods. (Vol. 32)
481-3B		List B - Index of Pesticides. List C - List of Dangerous Goods classes 2 to 6, 8 and 9 when shipped in packages. List D - List of Dangerous Goods of Class I. List E - List of Radioactive Substances class 7. List F - List of Dangerous Goods of classes 2 to 6, 8 and 9 when shipped as bulk cargo. (Vol. 32)
482		Dangerous Goods Placards - (21) Proposed for use by T. D. Ellison. (Vol. 32)
483		Work Statement - Explosafe Test and Evaluation. (Vol. 32)

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Registrar

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
484		Report on Production and Transportation Statistics of Selected Hazardous Materials. (Vol. 33)
485		Study to Investigate the Transportation Environment for the Movement of Cryogenic Fuel Gas and the Develop- ment of A Risk Analysis Model. (Vol. 33)
486		Transportation of Dangerous Goods. Emergency Response Seminar TP 2607 - Transport Canada. (Vol. 33)
487		List of C.R.L.A. witnesses Mississauga, Ont. July 7/80. (Vol. 33)
488		C.R.L.A. Submission on Railway Safety Feb. 1980. (Vol. 33 & 34)
488A		Appendices to Brief of C.R.L.A. (Vol. 34)
489		C.R.L.A. Supplementary Submission by Brotherhood of Locomotive Engineers. (Vol. 34)

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Property of COMMISSION OTHERS	DESCRIPTION OF EXHIBIT
490	Brotherhood of Railroad Signalmen on Railway Safety - July 1980. (Vol. 34)
491	Letter to Willson A. McTavish from Professor R. W. Smith re "Metallurgical Examination of Tank Car CGTX 90009" (Report No. CSP 80/14) dated July 2/80. (Vol. 34)
492	Brotherhood Railway Carmen of the United States and Canada - Submission on Railway Safety July 1980. (Vol. 34)
492A	Volume 33 - Safety Inquiry 6/23/71 - Canadian Transport Commission. (Vol. 34)
492B	Volume 38 - Safety Inquiry 7/12/71 - Canadian Transport Commission. (Vol. 35)
493	Submission of United Transportation Union - July 1980. (Vol. 35)
494	The United Transportation Union recommends. (Vol. 35)
495	Submission of Local 344 Sarnia - Inadequate Inspection of Trains (10 envelopes). (Vol. 36 & 37)
496	Emergency Inquiry Response dated July 1, 1980. (Vol. 37)

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..Registrar.....

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
497		A letter to Mr. F. R. Oliver, General Chairman, U.T.U. from A. A. Smail - General Superintendent - C.N.R. dated May 26th, 1980. (Vol. 37)
498		Brotherhood of Maintenance of Way Employees - Submission to M.R.A.I. on Railway Safety Feb. 1980. (Vol. 37)
499		E & N Steering Committee "Brief" - Vancouver Island. (Vol. 37)
499A		News Article - re deterioration of C.P. rail track on Vancouver Island. (Vol. 37)
500		Book - Wage Agreement Railway Association of Canada. (Vol. 37)
501		Book - Training Manual Basic freight car inspections and repairs - CP Rail. (Vol. 38)
502		Letters to and from Brotherhood Railway Carmen and Canadian Transport Commission. (Vol. 38)

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.....Thomas B. Millar.....

.....Registrar.....

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
503		C.P.R. - Maintenance Regulation on lubricator equipped Journal Boxes - Dec. 1970. (Vol. 38)
504		C.P.R. - defects of loaded cars require set-out Jan. 1980. (Vol. 38)
505		Brief - United Transportation Union. (Vol. 38)
506		Brief - United Transportation Union - Sarnia local. (Vol. 38)
	507	Letter from Stinson re union demands. (Vol. 38)
508		C.A.C.P. Presentation to Mr. Justice Samuel Grange - Mississauga Inquiry, July 10, 1980. (Vol. 38)
509		M-TRAC - Submission to M.R.A.I. July 7, 1980. (Vol. 38)
510		C.N.R. - Submission to M.R.A.I. July 14, 1980. (Vol. 38)

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Property of		NO.	DESCRIPTION OF EXHIBIT
COMMISSION	OTHERS		
511			Report to the M.R.A.I. from The Toronto Section of the Chemical Institute of Canada. (Vol. 38)
512			Submission of Alfred Tjernstrom to the M.R.A.I. (Vol. 39)
513			Submission to the M.R.A.I. - Attorney General for the Province of Ontario. (Vol. 39)
514			Submission to the M.R.A.I. by Frank Paul. (Vol. 39)
515			Submission to M.R.A.I. by Professor Julius Lukasiewicz P. Eng. (Vol. 40)
515A			An Assessment of Canadian Railway Safety by J. Lukasiewicz Jan. 1980. (Vol. 40)
515B			Canadian Weekend - The National Nightmare by J. Lukasiewicz Feb. 9th, 1980. (Vol. 40)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
515C		Today Magazine - Counterpoint Round House - Are Canada's railways on or off the track? April 26, 1980 - R.S. Farquharson. (Vol. 40)
516		The Railway Game - by Julius Lukasiewicz - 1976. (Handbook)
	517	Brief on Railway Safety to M.R.A.I. on behalf of the Municipality of Metropolitan Toronto. (Vol. 40)
	518	Brief To The Standing Committee Of The House of Commons On Transportation and Communications On Bill C-18 Submitted By The Federation of Canadian Municipalities June 26, 1980. (Vol. 40)
	519	Memo For File:- Re Noise Complaints C.P. North Toronto Subdivision C.T.C. file 26713.73. (Vol. 40)
	520	Site Specific Objection. Re: Torduff Ltd. (Vol. 40)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
	521	51 Aerial Photo - Town of Milton.
		(Size: 18" x 18") (1:10,000)
	522	52 Aerial Photo - Town of Georgetown.
		(Size: 33" x 34") (1:10,000)
	523	53 Aerial Photo - Town of Brampton.
		(Size: 33" x 33") (1:9600)
	524	54 Industrial areas of Brampton (folding map)
		(Vol. 40)
	525	55 Aerial Photo of Bramalea.
		(Size: 26" x 33") (1:9600)
	526	56 Aerial Photo of Malton.
		(Size: 37" x 22") (1:12000)
	527	57 Aerial Photo of Woodbridge.
		(Size: 50" x 26") (1:12000)
	528	Report To Planning Board - Borough of Etobicoke.
		(Vol. 40)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
529	58.	Composite zone map - Town of Vaughan. (Folding map) 1978 (Vol. 40)
530	59	Map - Thornhill Vaughan Community Parks Open Space System, Masterplan. (A folding map) Milus, Bollenbergher (Vol. 40) + Topps (blueprint). n.d.
531	60.	Aerial map - North York (central) (Size: 50" x 26") (1:12000)
532	61	Aerial photo - Town of Vaughan 1980. (cabinets - 2B) (Size: 71" x 35") (1:10000)
533		O.R.F. report CSP 80/16 Lubricator Combustion Tests for M.R.A.I. (Vol. 40)
534		Mississauga Brief to M.R.A.I. (Vol. 41)
535	62	Aerial Photo - Richmond Hill. (Size: 25" x 35") (1:10000)
536	63.	Aerial Photo - Metro Toronto N.E. (Size: 29" x 36") (1:12000)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
537	64	Map of the Town of Markham (a folding map) . (Vol. 41) 1968
538		Official Plan of The Markham Planning Area (Thornlea East) (Vol. 41)
539		Town of Markham - application for deletion of certain lands from the Minister's Order (Parkway Belt) - Miller Paving Submission. (Vol. 41)
540	65	Map 1 - Land uses and Population Densities along Railway Corridor. (Size: 31" x 38" Folded)
541	66	Map 2 - Main Railway Freight Routes - Central Ontario. (Size: 31" x 38" Folded)
542		Submission to the M.R.A.I. July 21, 1980. George Vasilca P.Eng. (Vol. 41)
543	67	Brief On Railway Safety to M.R.A.I. City of Hamilton. (Vol. 41) - Hamilton Ont. Land Use Concept Map n.d

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
	544	Railway Transport Committee - C.P.R. (Vol. 41)
	545	<i>108</i> Map showing "Powell Siding" in City of Windsor, Ont. (Vol. 41) <i>Rolph-Mc Nally Maps of City + Surrounding area. Mss features show Powell Siding. n.d.</i>
	546	<i>69</i> Aerial photo of the "Powell Siding" area in the City of Windsor. (Roll)
	547	O.R.F. Report CSP 80/14 Metallurgical Examination of Tank Car CGTX 90009. (Vol. 41)
	548	The A.A.R. Train Operations Simulator (TOS) Apr. 17, 1980. (Vol. 41)
	548A	Computer Simulation of stopping points. (Vol. 41)
	549	Summary of Recommendations of Dr. James D. Bricker. (Vol. 41)
	550	National Transportation Safety Board. Special Study. Railroad Emergency Procedures Jan. 18, 1980. (Vol. 41)

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Commissioner

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
551		National Transportation Safety Board. Special Investigation Report. The Accident Performance of Tank Car Safeguards. March 8, 1980. (Vol. 41)
552		National Transportation Safety Board. Special Investigation Report. Onscene Coordination Among Agencies at Hazardous Materials Accidents Sept. 13, 1979. (Vol. 41)
553		Curriculum Vitae - George V. Masters. (Vol. 42)
554		Journal Box c/w cover and dustguard slot. (In Box - Weighs 150 lbs.)
555	70	Pictorial view of DOT 111A100W+1 insulated Tank Car. (Roll) AFC Industries Inc., St. Charles Mo. 1971
556		Photo showing distance between 'end sills' C & O 19088 and CGTX 20794, to be 41 inches. (Vol. 42)
557		Photo showing "angle cock" on Tank Car NCTX 22541, taken at C.P.R. Marshalling Yard, Agincourt, Ont. (Vol. 42)

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
558		Hose bag - Found on C.P.R. right of way by George Masters. (In Box - Weighs 6 lbs.)
559	71	Drawing of General Arrangement 20,000 U.S. Gal. Tank Car. (Roll) <i>Hawker Siddeley Canada Ltd Trenton, N.S.</i> <i>Blueprint Dwg A154 H10. 1967.</i>
560	72-73	Drawing of General Arrangement 70 ton truck. (Roll) <i>Dominion Steel + Coal Corp, Trenton N.S. 1964</i> <i>Blueprint Dwg H-14011 (an incident filed tracing accompanies this exhibit).</i>
561		Photo showing railway truck NCTX 22541. (Vol. 42)
562		Photo showing right side frame of B truck NCTX 22541. (Vol. 42)
563		Photo showing R1 journal box of B truck NCTX 22541. (Vol. 42)
564		Map of Canada - Bulletin 658 AAR showing hot box detectors - CNR 1976. (Vol. 42)
565		Memo July 22/80 to W. A. McTavish, CTC Spec. 112-114 Tank Cars in Dangerous Commodities Service in Canada. (Vol. 42)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....

.....Executive Registrar.....

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 23, 24, 28 day(s) of July 1980

Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
566		Memo July 22, 1980 to W. A. McTavish. In U.S.A. and Canada there are approximately a total of 20,000 tank cars of C.T.C. Spec. 112-114 (approx. 8-10% in Canada) (Vol. 42)
567		Memo - July 11, 1980. Cost of converting a car from friction to roller bearing prepared by G. V. Masters. (Vol. 42)
568		A letter to R. P. Armstrong from Southland Manufacturing Co. Inc. dated June 27, 1980, enclosing lubricator pad sales to C & O Railway for months preceeding and following Nov. 1970. (Vol. 42)
569		Town of Vaughan letter to Mr. Justice S.G.M. Grange dated July 23, 1980. (Vol. 42)
	570	Lubricator Pad, mfg. by Hennessy Lubricator Co. Model Oil well C11, Mod 1 11-79. (Size: 9" x 8" x 4")
	571	Lubricator Pad, Mfg. by Hennessy Lubricator Co. Model Plus well C12 Mod 1, 7-80. (Size: 9" x 8" x 4")

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Executive Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 28, 29 day(s) of July 19 80

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
	572	Lubricator Pad - Eureka 6½ x 12A 4-77.
		(Size: 11" x 9" x 4")
	573	Lubricator Pad. Journa-Pak- JP 12C - 4-76.
		(Size: 10" x 12" x 4")
	574	Lubricator Pad - Premier 11P, Mod 9C 10-76.
		(Size: 12" x 10" x 4")
	575	A.A.R. - Manual of Standards & Recommended Practices
		Section H Journal Bearings and Lubrication - 1978.
		(Vol. 42)
	576	Rule 122 A.A.R. Interpretations of The Rules and Settle-
		ment of Disputes.
		(Vol. 42)
	577	A letter to Mr. N. L. Antle, A.A.R. dated March 11, 1980
		from M. F. Melrose, Chessie System, Huntington, West
		Virginia.
		(Vol. 42)
	578	A letter on A.A.R. letterhead dated April 14, 1980 to
		M. F. Melrose, Chessie System and signed N. L. Antle.
		(Vol. 42)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar.....
Executive Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter . Angus . Stonehouse . & . Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...29..... day(s) ofJuly..... 1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
579		Curriculum Vitae - Edward H. Wright. (Vol. 42)
580		Table showing location of parts believed to be from NCTX 22541. (Vol. 42)
581		Photo - Point of contact of side frame after dropping to track - looking east. (Vol. 42)
582		Photo - Point of contact of side frame dragging along ties - looking west. (Vol. 42)
583		Plain Bearing Pad Survey. March - April 1980. (Vol. 42)
584		Plain Bearing Pad Survey. June - July 1980. (Vol. 42)
585		Report to Chesapeake & Ohio Railway from Edward Wright. (Vol. 42)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30th day(s) of July 19 80

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Property of		NO.	DESCRIPTION OF EXHIBIT
COMMISSION	OTHERS		
586			Armour Research Foundation 1948 Pages 23 to 28. (Vol. 42)
	587		C.P.R. Report of Hot Boxes Attended to on the Road - Bredenbury, Sask. Feb. 4, 1980. (Vol. 42)
	588		Curriculum Vitae Dr. Gerald J. Moyer, P. Eng. (Vol. 42)
	589		Report - Lubricator Pad & Journal Dynamic Length Interaction by Dr. Gerald Moyer, July 28, 1980. (Vol. 42)
590			Brief: Canadian Association of Fire Chiefs (Vol. 42)
591			Brief: United Transportation Union - Local 1874 (Winnipeg) (Vol. 42)
592			Brief: Regional Transportation Safety Council - Great Lakes Region (Vol. 42)

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

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Thomas B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter ... Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30th day(s) of July 1980

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	Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
593			Brief - Town of Oakville (Vol. 42)
594			Brief: North Rosedale Ratepayers' Association (Vol. 42)
595			Brief: City of Windsor (Vol. 42)
596			Brief: Basil Geroe i. (Vol. 42)
597			Brief: Professor E. Farkas (Vol. 43)
598			Brief: Ontario Association of Fire Chiefs (Vol. 43)
599			Brief: Canadian Chemical Producers Association (Vol. 43)
600			Brief: Canadian Environmental Law Association (Vol. 43)
601			Letter: Chlorine Institute to Patricia Olasker 24th July 1980. (Vol. 43)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the30th..... day(s) of July..... 1980.

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Property of COMMISSION OTHERS		NO.	DESCRIPTION OF EXHIBIT
602			Memorandum from D.O.T. U.S.A., 23rd June, 1980 re Retrofit program. (Vol. 43)
603			Report: National Transportation Safety Board - Special Investigation - Survival in Hazardous Materials Transportation Accidents. (Vol. 43)
604			Report: National Transportation Safety Board - Special Study - Noncompliance with Hazardous Materials Safety REgulations. (Vol. 43)
605			Report: National Transportation Safety Board - Special Investigation Report - Standardized maps for Hazardous Materials Accidents. (Vol. 43)
606			Affidavit of Thomas B. Millar, Registrar, Notices to Public and true copies that Notice was published on dates shown. (Vol. 43)

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

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.....Thomas..B...Millar.....

.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

ReporterAngus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the30th..... day(s) ofJuly..... 19..80

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
607		Letter: From Willson A. McTavish, Q.C. addressed to all parties before the Commission with Status, advising the position of the Commission, and that the Commissioner will shortly set the date for commencement of the argument - dated 17th July 1980. (Vol. 43)
608		Letter from Leon Paroian Q.C. to Keith Thompson, Senior Counsel C.T.C. Ottawa - 10th Feb. 1980 re withdrawing application for consent to prosecute the C.P.R. for breach of Section 216 of the Railway Act. (Vol. 43)
609		Letter from Clive Holloway - York University dated 1st August 1980. (Vol. 44)
610		Analysis of proceedings of the National Transportation Safety Board into Derailments & Hazardous Materials April 4-6, 1978. (Vol. 44)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

..... Thomas B. Millar
..... Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse. &. Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the ..25th..... day(s) ofAugust.....19.80

Property of COMMISSION OTHERS		NO.	DESCRIPTION OF EXHIBIT
611			Memorandum of E. J. Hase, Director, Special Projects, Railway Transport Committee, to K. M. Bloodworth dated January 29, 1980 re Uniform Code of Operating Rules - Rule III (Vol. 44)
612			A Brief Survey of Rail Safety Technology, Volume I, by J. A. Macdonald prepared under contract for the Bureau of Management Consulting Services by the Canadian Institute of Guided Grounded Transport. (Vol. 44)
613			Railroad Accident Report of the National Transportation Safety Board, re Accident Soundview, Connecticut, October 8, 1970, adopted December 22, 1971. (Vol. 44)
614			Railroad Accident Report of the National Transportation Safety Board, re Accident near Des Moines, Iowa, September 1, 1975, and which Report is dated June 30, 1976. (Vol. 44)
615			Railroad Accident Report, re Accident at Houston, Texas, October 19, 1971, adopted December 13, 1972. (Vol. 44)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar

.....

Registrar

.....

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 25th day(s) of August 19 80

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
616		Railroad Accident Report of the National Transportation Safety Board, re Accident Glendora, Mississippi, September 11, 1969, adopted August 19, 1970. (Vol. 44)
617		Railroad Accident Report of the National Transportation Safety Board, re Accident Decatur, Illinois, July 19, 1974, adopted April 10, 1975. (Vol. 44)
618		Railroad Accident Report of the National Transportation Safety Board, re Accident Waverly, Tennessee, February 22, 1978, adopted February 8, 1979. (Vol. 45)
619		Railroad Accident Report of the National Transportation Safety Board, re Accident Houston, Texas, September 21, 1974, adopted May 1, 1975. (Vol. 45)
620		Railroad Accident Report of the National Transportation Safety Board, re Accident East St. Louis, Illinois, January 22, 1972, adopted January 31, 1973. (Vol. 45)

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

.....Thomas B. Millar.....
.....Registrar.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the25th..... day(s) of ...August..... 19.80

Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
621		Railroad Accident Report of the National Transportation Safety Board conducted by representatives of the Federal Railroad Administration re Accident at Laurel, Mississippi, on January 25, 1969. (Vol. 45)
622		A Release of the Association of American Railroads concerning hazardous materials and headed "Railroad Record is Best of Major Transport Modes" and which document was received by the Commission from a member of the public on January 25, 1980 but which publication does not bear a date. (Vol. 45)
623		Address published by D. L. Fletcher, Chief of Transportation, Canadian National, Montreal, Quebec. "Symposium on the Transportation of Hazardous Materials" delivered at the Symposium on Transportation of Hazardous Materials, April 24, 1980 at the Park Plaza Hotel Toronto. (Vol. 45)
624		Report to C.S.P. 80/14A - Metallurgical Examination of Tank Car C9TX90009 - Ontario Research Foundation. (Vol. 45)

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 27th & 29th day(s) of August 1980
& 4 Sept., 1980

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
	625	Retrofit Program - concerning the 24 derailed cars at Mavis Road. A summary of information from Exhibit #318.
	626	Letter and drawings from Eugene Kunz to Willson A. McTavish dated August 8, 1980. <i>(duplicate disposed)</i>
	74	<i>Hawker Siddeley Canada Ltd, Trenton NS, Tank Car, 33900 US Gal - Manway Cover 1967</i>
	75	<i>" " " - Bonnet Cover Assembly 1967</i>
	76	<i>Bonnet Shell assembly 1967</i>
	627	Letter to Thomas A. Phemister, Association of American Railroads from Willson A. McTavish, dated May 20, 1980.
	628	Letter to Willson A. McTavish, Mississauga Railway Accident Inquiry from Thomas A. Phemister, Association of American Railroads, dated August 18, 1980.
	629	Technical Report LTR ST.1196 re Determination of Fracture Mechanisms in the Journal Wedge from Tank Car NCTX 22541. Prepared by National Research Council of Canada - dated August 14, 1980.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the5th.....day(s) of September...1980.
8th & 10th September, 1980

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
630		A letter to D.A.L. Britnell, Q.C., from Robert P. Armstrong, Q.C., dated September 4, 1980.
631		A letter to Robert P. Armstrong, Q.C., from D.A.L. Britnell, Q.C., dated September 4, 1980.
632		Summary of the development of a hot box as described by Mr. Wright as given in evidence. Prepared by Dennis Lane, Q.C.
633		Suggested recommendations of Commission Counsel for consideration and discussion.
634		Letter to Robert P. Armstrong, Q.C. from D. A. L. Britnell, Q.C. dated September 5, 1980 re waiving privilege for eleven parties and their respective insurers.
635		Submission on behalf of Canadian General Transit Co. and Hawker Siddeley (Canada) Ltd. - by John Cannings, Counsel.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga on the 10th & 11th day(s) of September 1980.
15th September, 1980

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
	636	Photo - View taken from location where witness (Miss Carter) was standing at the time she viewed Train No. 54 on November 10, 1979. Photo was taken on September 11, 1980.
	637	Photo - as in Exhibit 636 - looking a little further to the east.
	638	Photo - as in Exhibit 637 - looking still further to the east.
	639	Ammonia Tank Car Safety - by Frank J. Heller, member of the A.A.R. Tank Car Committee, dated August 22, 1980.
	640	Sketch drawn by Cynthia Carter showing her house and the house of her landlord in relationship to the C.P.R. railway.
	641	Description of D.O.T. Tank Cars Popular Categories - Prepared by C.P.R.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

Thomas B. Millar
.....
Registrar
.....

Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the16th..... day(s) of ..September...19..80

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
	642	Written argument - submitted by Counsel for
		North American Car.
	643	The Perfect Tank Car Submission - prepared by
		the Canadian Pacific Railway.
	644	Excerpts from Exhibit 481-3, Transportation of
		Dangerous Goods - Vol. 1 - Prepared by C.P.R.
	645	C.P. Rail - Recommendations - Prepared by
		R. E. Shibley for C.P.R.
	646	Recommended Head End Train Marshalling Special
		Dangerous Commodities - Prepared by C.P.R.
	647	A letter dated March 11, 1980, to A. C. Clark from
		J. J. Robinson re "bottom discontinuity protection".

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

T. B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the 17th day(s) of September 1980

Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
	648	Railway Transport Committee Order No. R30031 dated November 27, 1979.
	649	Selection of suitable locations for hot box detectors.
	650	Letter from Chicago, Milwaukee, St. Paul and Pacific Railroad Co., dated June 2, 1978 to George B. Munroe, Jr., Association of American Railroads re Heat Sensitive Cap Screws - Journal Roller Bearings.
	651	Letter from G. W. Bartley, Car Engineer re Heat Sensitive Cap Screws - Roller Bearings, dated June 13, 1978 to George B. Munroe, Jr., Assoc. of American Railroads.
	652	Patent #3,540,459 dated November 17, 1970 - Hot Box Sensor.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

T. B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

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List of exhibits put in at the Hearing of this commission at Mississauga
on the 17th day(s) of September 1980
22nd September, 1980

Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
	653	C.P. Rail report on development and test results on Hot Box Detection System, dated February 11, 1975.
	654	Description of research and development project - C.P. Ltd. title: Develop Accident Prevention Device.
	655	Update on Exhibit No. 653.
	656	C.P. internal correspondence from C. R. Pike to R. Klein re Hot Box Detectors, dated July 12, 1976.
	657	Reply from B. Klein to C. R. Pike re Hot Box Detectors, dated September 3, 1976.
	658	C. R. Pike's reply to R. Klein, dated September 9, 1976.
	659	Mileage Chart - prepared by C.P.R.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

T. B. Millar
.....
Registrar
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Before The Hon. Mr. Justice Grange
Commissioner

Reporter Angus Stonehouse & Company

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List of exhibits put in at the Hearing of this commission at Mississauga
on the 22nd day(s) of September 1980

Property of COMMISSION OTHERS		NO.	DESCRIPTION OF EXHIBIT
	660		Three pages of A.A.R. Wheel & Axle Manual 1972: pages 91, 92 and 93, showing "Typical Burnoff", "Quick Burnoff" and "Slow Burnoff".
	661		Photo showing Cynthia Carter's landlord's greenhouse and the corner of his house.
	662		Certified to be a true copy of a Minute of a Meeting of the Committee of the Privy Council, approved by His Excellency the Governor General on the 5th September 1980. P.C. 1980 -2409.
	663		Brief on Railway Safety - on behalf of the citizens of the Provincial Riding of York Centre - By Alfred J. Strong, Q.C. M.P.P.
	664		A letter to Mr. Justice S. G. M. Grange dated 17th September 1980 from the Town of Markham enclosing a resolution passed by Council at its meeting September 9, 1980.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

T. B. Millar

Registrar

Before

The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company ..

List of exhibits put in at the Hearing of this commission at Mississauga
on the 26, 29 day(s) of .. September .. 19 80

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Property of COMMISSION OTHERS	NO.	DESCRIPTION OF EXHIBIT
665		Examples of Origin of Dangerous Commodity Loads - Prepared by CPR.
666		Relief of Flag Protection - prepared by CPR.
667		Management of the Transportation of Dangerous Goods Through Communities. Prepared by Transport Canada.
668		Analysis of RTC Inspection Data for the period Dec. 15, 1977 to Dec. 15, 1979. Prepared by CPR.
669		Revised 1980 Railroad Freight Car Safety Standards. Apr. 15, 1980. U.S. Department of Transportation. <i>(HAND) BOOK</i>
670		The Chlorine Institute Inc. - Docket No. HM-174; Notice No. 80-6- Notice of Proposed Rule Making Class 105 Tank Cars.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

T. B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter .. Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
on the ...29.....day(s) of ..September..1980.

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
671		Comparison Chart - Dangerous Goods listed in Exhibit 174 and references in other exhibits. Prepared by W. A. McTavish.
672		Bureau of Transportation Materials Transportation Bureau - shippers. Specifications for Tank Cars 49 CFR Parts 173 and 179. Response to HM-174 by A.A.R. Sept. 16, 1980.
673		Compressed Gas Association - Response to HM-174 Specifications for Tank Cars.
674		Railway Progress Institute - Response to HM-174 Specification for Tank Cars.
675		A letter to Mr. D. M. Lucas from Blenus Wright. His reply letter to Blenus Wright and an enclosure re derailed cars.

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MISSISSAUGA RAILWAY ACCIDENT INQUIRY

T. B. Millar
Registrar

Before The Hon. Mr. Justice Grange
Commissioner

Reporter ..Angus Stonehouse & Company.....

List of exhibits put in at the Hearing of this commission at Mississauga
on the 30 & day(s) of September 1980.
Oct. 1

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Property of COMMISSION OTHERS		DESCRIPTION OF EXHIBIT
676		C.T.C. Railway Transport Committee Report on Inquiry into the Derailment of C.N.R. Train B806OM09 on March 10, 1980 at Deer, Manitoba, otherwise referred to as "The MacGregor Derailment".
677		A letter from Canadian Freight Association dated Oct. 20, 1975 to Mr. J. P. Girard, Chairman, Transportation Committee, Propane Gas Association.
678		Emergency Response Program For Railroads - prepared by Dow Chemical.
679		Dennis Lane - argument.
680		Railroad Tank Car Safety Research and Tank Car Project - Report RA-17-1-43 (AAR R-433) Aug. 22, 1980 - Phase 17 Report on Study of Class 105A Tank Cars.

MISSISSAUGA RAILWAY ACCIDENT INQUIRY

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T. B. Millar

 Registrar

Before The Hon. Mr. Justice Grange
 Commissioner

Reporter .. Angus Stonehouse & Company

List of exhibits put in at the Hearing of this commission at Mississauga
 on the ..2,3..... day(s) of ...October..... 19..80

	Property of OMMISSION OTHERS		DESCRIPTION OF EXHIBIT
681			Freight Car Standards, Inspections and Inspection Points - prepared by Commission Counsel.
	682		History of The Brasses from NCTX 22541 prepared by Chesapeake & Ohio Railroad.
	683		Chessie System - Operating rules revised July 1, 1980.
	684		North America - Car owned - Ulmer file as of Apr. 1, 1980 % Roller Bearings by Car Type - prepared by C & O Railroad.
	685		The Metropolitan Toronto Executive Committee - Re - Disaster By-Law.
	686		Three letters regarding cost of roller bearing conversion.
	687		Three letters re rearview mirrors on engines - A.A.R. Steering Committee.