

Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2008-33

Massachusetts Bay Transit Authority (MBTA) Canton, MA March 25, 2008

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

| DEPARTMENT<br>FEDERAL RAILF  | OF TRA<br>ROAD A  | ANSPORT<br>DMINIST  | TATIC<br>TRATI | ON<br>ON                      | FRAFA              | ACTUA                  | AL RA  | ILR                                 | OAD A                | CCII             | DENT R                             | EPORT        | Г            | Η   | FRA Fi               | le #           | <u>HQ-200</u>  | 8-33        |  |
|--|---|---|----------------|-------------------------------|--------------------|------------------------|--|-------------------------------------|----------------------|------------------|------------------------------------|--------------|--------------|---|----------------------|----------------|----------------|-------------|--|
| 1.Name of Railroad   | 1a. Alphabetic Code   |   |                |                               |                    | 1b. 1                  | 1b. Railroad Accident/Incident No.           |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| 2.Name of Railroad C   | 2a. Alphabetic Code<br>MBAX                                     |   |                |                               |                    | 2b. I                  | 2b. Railroad Accident/Incident No.           |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| 3.Name of Railroad (   | 3a. Alphabetic Code   |   |                |                               |                    |                        | 3b. Railroad Accident/Incident No.           |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| N/A  | N/A   |   |                |                               |                    |                        | N/A  |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| 4.Name of Railroad I<br>Amtrak [ATK ]  | 4a. Alphabetic Code<br>ATK                                      |   |                |                               |                    | 4b. ]                  | 4b. Railroad Accident/Incident No.<br>108181 |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| 5. U.S. DOT_AAR C  | 6. I<br>Ma  | . Date of Accident/Incident<br>Ionth 03   Day 25  Year 2008 |                |                               |                    |                        | . Time of Accident/Incident<br>05:15:00      |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| 8. Type of Accident/I  | ndicent   | 1. Derail   | ment           |                               | 4. Side c          | ollision               |  | 7. Hwy-rail crossing 10. Explosion- |                      |                  |                                    |              |              | tonation 13. Other Code                                   |                      |                |                |             |  |
| (single entry in co  | 8. RR grade crossing 11. Fire/violent                           |   |                |                               |                    |                        | pture (describe in                           |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
|  |   | 3. Rear e   | nd coll        | sion 6. Broken Train collisio |                    |                        | ollision                                     | 9. Obstruction                      |                      |                  | 12. 0                              | Other impa   | acts         |   | nurra                | uve)           |                | 12          |  |
| 9. Cars Carrying<br>HAZMAT   |   | 10. HAZ   | MAT (          | Cars                          |                    | 11. Cars Rel<br>HAZMAT |  |                                     | easing               |                  | 12. Peopl                          | e            |              | 13. Divi  |                      |                |                |             |  |
|  | 0   | Damaget   | Derai          | leu                           | N/A HAZMAI         |                        |  |                                     | N/A                  |                  | Evacuated                          |              |              | 0   |                      |                | NST            |             |  |
| 14. Nearest City/Tow   | 'n  |   |                |                               |                    | 15. Mil                | epost  | st (                                |                      |                  | ate<br>Abbr                        | Code         | 17           | . County  |                      |                |                |             |  |
|  |   | Canton  |                |                               |                    | (101                   | 2  | 214.0                               |                      |                  | N/A   MA                           |              |              | NOR   |                      |                | RFOLK          |             |  |
| 18. Temperature (F)  |   | 19. Visit   | oility         | (sing                         | gle entry)         | Code                   | 20. W  | Veath                               | er (single           | entry            | entry) Code                        |              |              | 21. Type of Tracl   |                      |                | k C            |             |  |
| (specify if minus)   | )   | 1.  | Dawn           | 3.D                           | usk                |                        | 1  | . Clea                              | ar 3. Ra             | in :             | 5.Sleet                            | 1            |              | 1. M  | ain 3.               | Sidir          | iding          |             |  |
| 43   | 3 F   | 2.  | Day            | 4.I                           | Dark               | 2                      | 2  | . Clo                               | udy 4. Fo            | g                | 6.Snow                             | 1            |              | 2. Ya   | ard 4.               | Indus          | stry           | 1           |  |
| 22. Track Name/Nu  | mber  |   |                |                               |                    | 23. FRA                | A Track                                      | *                                   | Code                 | 24. A            | nnual Tracl                        | Density      |              | 25. Time Table Direction                                  |                      |                | ction          | Code        |  |
|  |   | Ν   | lain Tı        | ack O                         | ne                 | Cla                    | ss (1-9, X                                   | <sup>()</sup>                       | 8                    | ()<br>n          | gross tons t<br>illions)           | n<br>N/2     | A            |   | 1. Norti<br>2. Soutl | 13.<br>h4      | East<br>West   | 4           |  |
|  |   |   |                |                               |                    |                        | ODED   | <u>лт</u> і                         | NG TPA               | IN #1            | ,<br>1                             |              |              |   | 2. 5044              |                | ii est         |             |  |
| 26 True of Family  |   | End also  |                | 4 117                         |                    | <b>V</b> 1/            | UI LK  |                                     | Care Max             | И.Б.:            | in Code                            | 127 Was      | Equip        | ment (  | 1 . 1 .              | 20.7           |                |             |  |
| 26. Type of Equipment 1. Freight train 4. Work train 7. Yard/switching A. Spec. MoW Equip. Code 27. Was Equipment Code 28. Train Number/Sy Attended? |   |   |                |                               |                    |                        |  |                                     |                      |                  |                                    | nber/Symbol  |              |   |                      |                |                |             |  |
| Consist (single ch   | 3.  | . Commute   | r train        | 6. Cu                         | t of cars 9.       | Maint./ii              | ispect.ca                                    | r                                   |                      |                  | 5                                  | 1.           | Yes          | 2. No   | 2                    |                | N/             | A           |  |
| 29. Speed (recorded  | speed, if   | available)  | Code           | 31.                           | Method(s)          | of Operati             | ion (  | ente                                | r code(s) t          | that a           | pply)                              |              |              | 31a. Rem  | otely C              | ontrol         | lled Loco      | motive?     |  |
| R - Recorded   |   | ,   |                | a.                            | ATCS               |                        | g. Autom                                     | atic t                              | olock                | m.Spe            | cial instruc                       | tions        |              | 0 = Not a   | remote               | ly co          | ntrolled       |             |  |
| E - Estimated 23 MPH E b. Auto train control h. Current o  |   |   |                |                               |                    |                        |  |                                     |                      | n. Oth           | er than mai                        | n track      |              | 1 = Remote control portable                               |                      |                |                |             |  |
| c. Auto train stop i. Time table/train orders o. Positive train control 2 = Remote control tower   |   |   |                |                               |                    |                        |  |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |
| SU. Training Tons (gross tonnage,<br>excluding power units) d. Cab j.Track v   |   |   |                |                               |                    |                        |  |                                     | it control           | p. Ou            | Codo(s                             | y in narra   | tive)        | 3 = Rem   | ote cont             | rol<br>oro th  | 0.0.000        |             |  |
| e. Traffic k. Direc  |   |   |                |                               |                    |                        |  |                                     | c control            |                  |                                    |              |              | remote o  | control              | transr         | nitter         |             |  |
|  |   |   |                |                               |                    | · · ·                  | . I aru ini                                  |                                     |                      | a                | d g                                | 0            | N/A          |   |                      |                |                | 0           |  |
| 32. Principal Car/Uni  | t   | a. Initial  | and Nu         | mber                          | b. Positio         | on in Trai             | n c. l                                       | Loade                               | ed(yes/no)           | 33.1             | f railroad e                       | mployee(s    | s) teste     | ed for drug   | /alcoho              | l use,         | Alashal        | Drago       |  |
| (1) First involved<br>(derailed struck i   | 41  |   | 0              |                               |                    | yes                    |  | the appropri                        | riate box.           |                  | positive i                         |              | $\vdash$     | Alconol   | Drugs                |                |                |             |  |
| (2) Causing (if ma   | chanica   | 1   |                |                               |                    |                        |  |                                     |                      | 24               | Weathia                            | on sist trop |              |   | ~~~? ( <b>X</b>      |                | 0              | 0           |  |
| cause reported   |   |   | 0              |                               | Ν                  | I∕A                    | 54.  | . was uns c                         | onsist trai          | isporti          | ing passen                         | gers? (1     | (/IN)        |   | N                    |                |                |             |  |
| 35. Locomotive Uni   | 35. Locomotive Units a. Head<br>End b. M                        |   |                |                               | Frain<br>c. Remote | Re<br>d. Manua         | ear End<br>l   c. Rer                        | note                                | 36. Cars             |                  |                                    | a. Fi        | Lo<br>reight | aded<br>b. Pass.  | c. Frei              | Emp<br>ght   d | ty<br>1. Pass. | e. Caboose  |  |
| (1) Total in Train   | n   | 0   |                | 0                             | 0                  | 0                      | 0  |                                     | (1) Total            | in Equ           | ipment Co                          | nsist        | 1            | 0   | 0                    |                | 0              | 0           |  |
| (2) Total Deraile  | d   | 0   |                | 0                             | 0                  | 0                      | 0  |                                     | (2) Total            | Derail           | ed                                 |              | 0            | 0   | 0                    |                | 0              | 0           |  |
| 37. Equipment Dama   | age   |   | . 3            | 88. Tra                       | ick, Signal, V     | Way,                   |  |                                     | 39 Prima             | irv Cai          | use                                |              |              | 40 Cont   | ributino             | Cau            | 20             |             |  |
| This Consist   |   | \$58,755.00   |                | & Stru                        | icture Dama        | ge                     | \$0.00                                       |                                     | Code                 | uy cu            |                                    | H099         |              | Code  | nouting              | Caus           | ,.<br>  1      | 399         |  |
|  |   | Numbe   | r of Cre       | ew Me                         | embers             |                        |  |                                     |                      |                  |                                    | Leng         | gth of '     | Time on D   | uty                  |                | 1              |             |  |
| 41. Engineer/  | 42. Fir   | emen  |                | 43. Co                        | onductors          | 44. Br                 | 44. Brakemen                                 |                                     | 45. Engir            | neer/O           | eer/Operator                       |              |              | 46. Con   | 46. Conductor        |                |                |             |  |
| Operators 1  |   | 0   |                |                               | 1                  |                        | 0  |                                     |                      | Hrs              | Hrs <sub>10</sub> Mi <sub>20</sub> |              |              |   | Hrs 10               |                | 10             | Mi 20       |  |
| Casualties to:   | Casualties to: 47. Railroad Employees 48. Train Passengers 49 O |   |                |                               |                    |                        | Other  |                                     | 50. EOT Device?      |                  |                                    |              |              | 51. Was EOT Device Properly Armed?                        |                      |                |                |             |  |
| Fatal  |   | 0   |                |                               | 0                  |                        | 0  |                                     | 1. Yes 2. No 2       |                  |                                    |              |              | 1. Yes 2. No N  |                      |                |                |             |  |
| i uuu  |   |   |                |                               | U                  |                        | 52, Caboose Occur                            |                                     |                      | ccupied by Crew? |                                    |              |              |   |                      | 1              |                |             |  |
| Nonfatal   | 0 0 0 0 1. Yes  |   |                |                               |                    |                        |  |                                     | Yes                  | 2                | . No                               |              |              |   |                      | N/A            |                |             |  |
|  |   |   |                |                               |                    | 0                      | PERAT  | ΓINC                                | G TRAIN              | #2               |                                    |              |              |   |                      |                |                |             |  |
| 53. Type of Equipme  | ent 1.  | Freight tra   | in .           | 4. Wo                         | ork train 7.       | Yard/swi               | itching                                      | A.                                  | Spec. MoW            | V Equi           | ip. Code                           | 54. Was      | Equip        | ment C  | ode                  | 55. T          | rain Nun       | nber/Symbol |  |
| Consist (single en   | try) 2.   | Passenger   | train          | 5. Sin                        | gle car 8.         | Light loc              | o(s).  |                                     | Attend               |                  |                                    |              |              | 1?  |                      |                |                | R 917       |  |
| 56 Sport   | 3.  | Commuter  |                | o. Cu                         | t of cars 9.       | Maint./ir              | ispect.car                                   | Г<br>                               | n an 1-( ) -         | 41               | 3                                  | 1. `         | Yes          | 2. No   | 1<br>otaly C         | ont            | lad I          | motive      |  |
| B - Recorded   | speed, if   | available)  | Code           | 38.<br>  9                    | ATCS               | or Operati             | un (<br>z. Autom                             | ente:<br>atic F                     | r coae(s) t<br>block | mat a            | pply)                              | tions        |              | 0 = Not a remotely controlled                             |                      |                |                |             |  |
| E - Estimated  | 0   | MPH   | R              | b                             | . Auto train       | control l              | 1. Curren                                    | t of t                              | raffic               | n. Oth           | er than mai                        | n track      |              | 0 = Not a remotely controlled 1 = Remote control portable |                      |                |                |             |  |
| 1  |   |   |                | 1                             |                    |                        |  |                                     |                      |                  |                                    |              |              |   |                      |                |                |             |  |

| DEPARTMENT<br>FEDERAL RAILF  | OF TRAI<br>ROAD AI  | NSPORT<br>DMINIST | FATIO<br>FRATI | ON<br>ION                                    | FRA FA  | CTUAL  | RAILR  | OAD AC   | CID                                     | ENT       | REP   | ORT                    | F                          | RA Fil                      | e # 1                            | HQ-200         | <u>8-33</u> |  |  |
|--|---|-------------------|----------------|--|---|--|--|--|---|-----------|---|------------------------|----------------------------|-----------------------------|----------------------------------|----------------|-------------|--|--|
| 57. Trailing Tons (gross tonnage,<br>excluding power units)  |   |                   |                |  | Auto train<br>Cab<br>Traffic                      | ain orders o. Positive train control<br>t control p. Other ( <i>Specify in narrative</i> )<br>c control Code(s)                              |  |  |   |           | 2 = Remote control tower<br>3 = Remote control<br>transmitter - more than one |                        |                            |                             |                                  |                |             |  |  |
|  |   | N/A               |                | f.   | Interlocking                                      |  | a  | d  | g                                       | o N/A     | remote c  | control ti             | ransm                      | nitter                      | 0                                |                |             |  |  |
| 59. Principal Car/Unit a. Initial and Nu   |   |                   |                |  | mber b. Position in Train c.                      |  |  | led(yes/no)                                      | 60.                                     | If railro | ad emp  | oloyee(s) tes          | sted for drug/alcohol use, |                             |                                  |                | 1           |  |  |
| (1) First involved XMBT103(  |   |                   | 30             | 1  |   |  | ves  |  | enter th                                | e num     | ber that were   | e positive in Alcohol  |                            |                             |                                  | Drugs          |             |  |  |
| (derailed, struck, etc)  |   |                   |                |  |   |  |  |  |   |           | e box.  | N/A                    |                            |                             |                                  | N/A            |             |  |  |
| cause reported) 0  |   |                   |                | 0  |   |  | V/A 01. was this consist transport                 |  |   |           |   | ting passengers? (Y/N) |                            |                             |                                  | Y              |             |  |  |
| 62. Locomotive Units a. Head<br>End b. Mar   |   |                   | Mid T<br>anual | rain<br>c. Remote                            | Rea<br>d. Manual                                  | r End<br>c. Remote   | 63. Cars   | a. Freight                                       |   |           | b. Pass.  | c. Frei                | Empt<br>ght c              | ty<br>1. Pass.              | e. Caboos                        |                |             |  |  |
| (1) Total in Train   |   | 1                 |                | 0  | 0   | 0  | 0  | (1) Total in Equipment Consist                   |   |           | 0   | 6                      | 0                          |                             | 0                                | 0              |             |  |  |
| (2) Total Deraile  | ed  | 0                 |                | 0  | 0   | 0  | 0  | (2) Total Derailed 0                             |   |           |   |                        | 0                          | 0                           |                                  | 0              | 0           |  |  |
| 64. Equipment Dama<br>This Consist   | age   | 275 796 00        |                | 65. Tra                                      | Track, Signal, Way,                               |  |  |  | 66. Primary Cause                       |           |   |                        |                            | 67. Contributing Cause      |                                  |                |             |  |  |
|  | 90  | Numbe             | r of Ci        | rew Me                                       | mbers   | age  | ,  |  |   |           | 1   | Length of              | Time on D                  | Outy                        |                                  |                | 1399        |  |  |
| 68. Engineer/  | 69. Fire  | men               |                | 70. Co                                       | onductors   | 71. Bral   | kemen  | 72. Engin  | eer/Op                                  | erator    |   |                        | 73. Conductor              |                             |                                  |                |             |  |  |
| Operators 1  |   | 0                 |                |  | 2 0   |  |  |  | Hrs 4 Mi 9                              |           |   |                        | Hrs                        |                             |                                  | 4 Mi           |             |  |  |
| Casualties to:   | 74. Railro  | oad Emple         | oyees ′        | 75. Trai                                     | in Passengers                                     | 76. Othe   | '6. Other  |  | 77. EOT Device?                         |           |   |                        | 78. Was                    | 78. Was EOT Device Properly |                                  |                | Armed?      |  |  |
| Fatal  |   | 0                 |                |  | 0 0   |  |  | 70. Caboosa Occupied by Craw?                    |   |           |   |                        |                            | 10/24                       |                                  |                |             |  |  |
| Nonfatal   |   | 3                 |                |  | 140   |  | 0  | 1. Yes 2. N                                      |   |           |   |                        |                            |                             |                                  |                | N/A         |  |  |
|  |   |                   |                |  | OP!   |  |  | G TRAIN  |   |           |   |                        |                            |                             |                                  |                |             |  |  |
| 80. Type of Equipment   1. Freight train   4. Work train   7. Yard/switching   A. Spec. MoW Equip. Code   81. Was Equipment   Code   82. Train Number/Symbol     Consist (single entry)   2. Passenger train   5. Single car   8. Light loco(s).   A. Spec. MoW Equip. Code   81. Was Equipment   Code   82. Train Number/Symbol   |   |                   |                |  |   |  |  |  |   |           | ber/Symbol  |                        |                            |                             |                                  |                |             |  |  |
| 3. Commuter train 6. Cut of cars 9. Maint./inspect.car N/A 1. Yes 2. No N/A N/A  |   |                   |                |  |   |  |  |  |   | motivo?   |   |                        |                            |                             |                                  |                |             |  |  |
| R - Recorded (recorded speed, g available) Coue (s) interior (enter coue(s) in |   |                   |                |  |   |  |  |  |   | mouve?    |   |                        |                            |                             |                                  |                |             |  |  |
| E - Estimated  | E - Estimated N/A MPH   N/A b. Auto train control h. Current of |                   |                |  |   |  |  |  | . Othe                                  | r than r  | nain tra  | ack                    | 1 = Remo                   | ote conti                   | rol po                           | ortable        |             |  |  |
| 84. Trailing Tons  | gross ton   | nage,             |                | - c.   | Auto train  | stop i. 7  | Fime table/ti                                      | rain orders                                      | ). Posi<br>). Othe                      | tive tra  | in cont   | rol<br>narrative)      | 2 = Remo<br>3 = Remo       | ote contr                   | ol tov<br>rol                    | ver            |             |  |  |
| excluding power units) d. Cab J. I rack warra<br>e. Traffic k. Direct traff  |   |                   |                |  |   |  |  |  |   | Cod       | e(s)  | narranve)              | transmit                   | ter - mo                    | ore that                         | an one         |             |  |  |
| N/A f. Interlocking 1.Yard limits N/A N/A N/A N/A N/A remote co  |   |                   |                |  |   |  |  |  | control ti                              | ransm     | nitter  | N/A                    |                            |                             |                                  |                |             |  |  |
| 86. Principal Car/Un   | and N   | lumber            | b. Positic     | n in Train                                   | c. Load   | led(yes/no) 87. If railroad employee(s) tes  |  |  |   |           | ed for drug   | g/alcoho               | ol use,                    | ,                           |                                  |                |             |  |  |
| (1) First involved   |   |                   | N/A            |  | N   |  | N/A enter the number that were the appropriate box |  |   |           |   | e positive i           | n                          |                             | Alcohol                          | Drugs          |             |  |  |
| (derailed, struck, etc)  |   |                   |                |  |   | 88 Was this consist transport  |  |  |   |           | ting passengers? (V/N)  |                        |                            |                             | N/A                              |                |             |  |  |
| (2) Causing (1J mechanical<br>cause reported) N/A  |   |                   |                |  | N   | /A   | ]  | N/A  | 88.                                     | Was th    | us cons   | sist transport         | N/A                        |                             |                                  |                |             |  |  |
| 89. Locomotive Uni   | its   | a. Head<br>End    | b M            | Mid T  | rain<br>c Remote                                  | Rea<br>d. Manual   | r End<br>c. Remote                                 | 90. Cars<br>a. Freig                             |   |           |   | a. Freight             | b. Pass.                   | c. Frei                     | Empi<br>ght   c                  | ty<br>1. Pass. | e. Caboose  |  |  |
| (1) Total in Train   | n   | N/A               | N              | J/A  | N/A   | N/A  | N/A  | (1) Total ir                                     | Equip                                   | oment C   | Consist   | N/A                    | N/A                        | N/A                         |                                  | N/A            | N/A         |  |  |
| (2) Total Deraile  | ed  | N/A               | N              | [/A  | N/A   | N/A  | N/A  | (2) Total D                                      | eraile                                  | d         |   | N/A                    | N/A                        | N/A                         |                                  | N/A            | N/A         |  |  |
| 91. Equipment Dama   | age   |                   |                | 92. Tra                                      | ck, Signal, W                                     | /ay,   |  | 93. Primar                                       | y Cau                                   | se Code   | ;   |                        | 94. Cont                   | ributing                    | Caus                             | se             |             |  |  |
| This Consist   |   | N/A               |                | & St   | ructure Dama                                      | N/A Code N/A   |  |  |   |           |   |                        |                            | N/A                         |                                  |                |             |  |  |
| 05 Engineen/   | 06 Eiro   | Numbe             | r of Ci        | IQ7 C  | mbers   | Length of Time on Duty       99 Engineer/Operator     1.100 Operator   |  |  |   |           |   |                        |                            |                             |                                  |                |             |  |  |
| 95. Engineer/ 96. Firemen<br>Operators N/A N/A   |   |                   |                | <i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | N/A   | N N  | 98. Brakemen<br>N/A                                |  | 99. Engineer/Operator<br>Hrs N/A Mi N/A |           |   |                        |                            |                             | 100. Conductor<br>Hrs N/A Mi N/A |                |             |  |  |
| Casualties to:   | 101. Rail   | road Emp          | lovees         | 102.   | Train   | 103. Otl   | ner  | 104. EOT   |   |           |   |                        | 105. Was                   | s EOT E                     | Device                           | e Properl      | v           |  |  |
| Fatal  | N/A   |                   |                |  | N/A N/A   |  |  | 1. Y   | es                                      | 2. No     |   | N/A                    | 1. Yes 2. No               |                             |                                  |                | N/A         |  |  |
| Nonfatal   | Nonfatal  |                   |                |  |   |  |  | 106. Caboose Occupied by Crew?                   |   |           |   |                        |                            |                             |                                  |                | . N/A       |  |  |
| Ivoniatar N/A N/A N/A  |   |                   |                |  |   |  |  |  | 1. 105 2. NO N/A                        |           |   |                        |                            |                             |                                  |                |             |  |  |
| Highway User Involved  |   |                   |                |  |   |  |  | Kail Equipment Involved                          |   |           |   |                        |                            |                             |                                  |                |             |  |  |
| C. Truck-T   | Frailer. F  | Bus               | J              | . Other                                      | Motor Vehic                                       | le   | Code   | 3.Train (standing) 6.Light Loco(s) (moving) Code |   |           |   |                        |                            |                             |                                  |                |             |  |  |
| A. Auto D. Pick-Up Truck G. School Bus K.   B. Truck E. Van   H. Motorcycle  |   |                   |                |  | strian<br>er (spec. in na                         | 2.Train(units putting) 4.Car(s)(moving) 7.Lign(s) (standing)<br>2.Train(units pushing) 5.Car(s)(standing) 8.Other (specify in narrative) N/A |  |  |   |           |   |                        | N/A                        |                             |                                  |                |             |  |  |
| 108. Vehicle Speed   | (mpact)   | N/A               | 109.           | th 2.80                                      | geographical) Code<br>2 South 3 East 4 Word I N/A |  |  |  | 112. Position of Car Unit in N/A        |           |   |                        |                            |                             |                                  |                |             |  |  |
| (con m1 11 ut m  | Turi  |                   | 01             | 2.00   | on Mot  |  | 1  | 1  |   |           |   |                        |                            |                             |                                  |                |             |  |  |

| DEPARTMENT OF TRANSPORTATION   FRA FACTUAL RAILROAD ACCIDENT REPORT   FRA File # HQ-2008-33     FEDERAL RAILROAD ADMINISTRATION   FRA FACTUAL RAILROAD ACCIDENT REPORT   FRA File # HQ-2008-33  |  |           |      |         |               |             |   |               |                         |                |                           | .33                             |         |
|---|--|-----------|------|---------|---------------|-------------|---|---------------|-------------------------|----------------|---------------------------|---------------------------------|---------|
| 110. Position   | 110. Position Code 113. Circumstance   |           |      |         |               |             |   |               |                         |                |                           |                                 |         |
| 1. Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing   1. Rail Equipment Struck Highway User     4. Trapped   N/A  |  |           |      |         |               |             |   |               |                         |                |                           |                                 | N/A     |
| 114a. Was the   | 114a. Was the highway user and/or rail equipment involved Code 114b. Was there a hazardous materials release |           |      |         |               |             |   |               |                         |                |                           |                                 |         |
| in the impact transporting hazardous materials?<br>1. Highway User 2. Rail Equipment 3. Both 4. Neither 1. Highway User 2. Rail Equipment 3. Both 4. Neither  |  |           |      |         |               |             |   |               |                         |                |                           | N/A                             |         |
| 1. Highway User 2. Kail Equipment 3. Both 4. Neither 1977 1. Highway Cost 2. Kail Equipment 5. Both 4. Neither  |  |           |      |         |               |             |   |               |                         |                |                           |                                 |         |
| 114c. State here the name and quantity of the hazardous materials released, if any.<br>N/A  |  |           |      |         |               |             |   |               |                         |                |                           |                                 |         |
| 115. Type 1.Gates 4 Wig Wags 7. Crossbucks 10. Flagged by crew 116. Signaled Crossing Code 117 Whistle Ban  |  |           |      |         |               |             |   |               |                         |                |                           |                                 | Code    |
| Crossing   2.Cantilever FLS   5.Hwy. traffic signals   8.Stop signs   10.the get of control of the signal of the si |  |           |      |         |               |             |   |               |                         |                |                           |                                 |         |
| Code(s)   | N/A N/A N/A N/A N/A N/A N/A 3. Unknown   |           |      |         |               |             |   | 3. Unknown    | N/A                     |                |                           |                                 |         |
| Image: Instruction of Warning Code 119. Crossing Warning Code 120. Crossing Illuminated by Street   1. Both Sides with Highway Signals Lights or Special Lights   |  |           |      |         |               |             |   |               |                         |                | Code                      |                                 |         |
| 2. Side of  |  |           |      |         | 1. Yes        |             |   |               |                         |                |                           |                                 |         |
| 3. Opposit  | e Side of Vehic  | ele Appro | bach |         | N/A           |             | 2. No<br>3. Unknown   |               | N/A 2. No<br>3. Unknown |                |                           |                                 | N/A     |
| 121.  | 122. Driver's  | Gender    | Code | 123.    | Driver Drov   | ve Behind o | or in Front of  | Code          | 124. Driv               | er             |                           |                                 | Code    |
| Age   | 1. Male  |           |      |         | and Struck o  | r was Struc | k by Second   | Гrain         | 1. Drov                 | e around or th | ru the Gate               | 4. Stopped on Crossing          |         |
| N/A   | 2. Female  | e         | N/A  |         | 1. Yes        | 2. No       | 3. Unknowi  | N/A           | 2. Stop]<br>3. Did 1    | ot Stop        | roceeded                  | 5. Other (specify in narrative) | N/A     |
| 125. Driver Pa  | ssed   | Cod       | e 12 | 6. Viev | w of Track C  | bscured by  | (primary ob   | struction)    |                         |                |                           |                                 | Code    |
| Highway V   | ehicle   |           |      | 1. Pe   | ermanent Str  | ucture      | <ol><li>Passi</li></ol>   | ng Train 5. ' | Vegetation              | 7. Other       | (specify in               | narrative)                      |         |
| 1. Yes 2. No  | 3. Unknown   | IN/.      | A    | 2. St   | tanding Railı | oad Equip   | ment 4. Topo  | graphy 6. l   | Highway Veh             | cle 8. Not o   | bstructed                 |                                 | IN/A    |
| Casualties to: Killed Injured 127. Driver<br>1. Killed 2. Injured 3. Uninjured  |  |           |      |         |               |             |   |               |                         | e   128. W     | /as Driver in t<br>1. Yes | he Vehicle?<br>2. No            | N/A     |
| 129. Highway-Rail Crossing Users N/A N/A  |  |           |      |         |               |             | 130. Highway Vehicle Property Damage<br>(est. dollar damage) N/A (include driver) |               |                         |                |                           |                                 | g Users |
| 132. Locomotive Auxiliary Lights? Code 133. Locomotive Auxiliary Lights Operational?  |  |           |      |         |               |             |   |               |                         |                |                           | Code                            |         |
| 1. Yes 2. No  |  |           |      |         |               |             | N/A 1. Yes 2. No  |               |                         |                |                           | N/A                             |         |
| 134. Locomot  | ive Headlight I  | lluminat  | ed?  |         |               |             | Code  | 135. Locor    | notive Audibl           | e Warning So   | unded?                    |                                 | Code    |
| 1. Yes 2. No N/A 1. Yes 2. No   |  |           |      |         |               |             |   |               |                         | N/A            |                           |                                 |         |

136. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED.



#### 137. SYNOPSIS OF THE ACCIDENT

CSX Transportation (CSX) loaded lumber car (TTZX 864041) impacted a westbound Massachusetts Bay Commuter Railroad (MBCR) train on March 25, 2008 at 5:15 p.m. EST. The accident occurred near Canton, Massachusetts, at milepost 214 of the National Railroad Passenger Corporation (ATK) Northeast Corridor. CSX Train B710-25 delivered the lumber car to Cohenno Terminal Inc. located at milepost 17.6 on the MBCR Stoughton Branch at 12:00 p.m. At 5:09 p.m. the car rolled out of the facility, over a derail, through an electrically locked switch, and traveled northward along the Stoughton branch through three highway-rail grade crossings without incident. It then continued onto the Northeast Corridor at Junction Interlocking, in a reverse direction of the route lined for the commuter train, and continued east until it impacted the MBCR Train 917. Three train crew personnel and 140 passengers suffered injuries. The commuter train sustained approximately \$875,796 dollars in equipment damage. Amtrak reported the track damage was approximately \$3,000. The lumber car received \$58,755 in damage, however no rail cars derailed. CSX chose to not file a form FRA 6180.54 Rail Equipment Accident/ Incident Report and as a result, the damage to TTZX 864041 was not reported.

The Northeast Corridor timetable direction from Boston to New Haven is west. The Stoughton branch timetable direction from Junction Interlocking to Stoughton is south.

At the time of the accident it was daylight and the temperature was 43°F.

The probable cause of the accident was either failure to apply the handbrake on the rail car TTZX 864041 when the car was initially set-out at the Cohenno facility or that the handbrake was subsequently released at a later time. A contributing factor was an ineffective derail located at the Cohenno industrial spur. The derail located on the MBCR Stoughton Branch failed to derail the car prior to reaching the main track of the Stoughton branch.

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

CSX TRAIN B710-25

The crew of CSX Train B710-25 included a locomotive engineer and a conductor. The crew first went on duty at 6:55 a.m. EST, March 25, 2008, at the CSX Readville Yard in Boston, Massachusetts. This was the home terminal for the crew members, and both received more than the required statutory off-duty rest period prior to reporting for duty.

The assigned freight train consisted of locomotive CSXT 6243 and 16 rail cars. After switching operations were completed at CSX Readville Yard, the train received an initial terminal train air brake test and departed at 10:00 a.m. The six loaded cars destined for Cohenno consisted of three box cars and three center beam flat cars.

Subsequent to entering the Northeast Corridor, the train operated on Main Track Number One to the industrial park at Rt. 128 located at milepost 217, and cleared the main line. Ten rail cars were left at the industrial park. The train departed the west end of 128 on Main Track Number One. At Junction Interlocking, located at milepost 213.90, the train crossed over to Main Track Number Two and crossed again from Main Track Number Two onto the MBCR Stoughton branch. While operating on the Stoughton branch, the train traveled to CP Porter where the locomotive was uncoupled and run around the train for the reverse movement to the Cohenno lumber facility.

The following are statements of what transpired on March 25, 2008 while the crew of CSX B710-25 set six cars into the Cohenno spur. The information was obtained from various statements gathered by and supplied to FRA during the course of the investigation:

After arriving at the Cohenno spur at approximately 11:50 a.m., the conductor operated the electric lock for the switch, aligned the switch for the spur, walked to the derail location, and positioned the derail in the down

and non-derailing position for the move. The six loaded rail cars (from south to north: TTZX 857190, CRLE 10497, CN 598072, SP 230671, TTZX 85526, and TTZX 864041) were shoved to the south end of the spur track and spotted at the end of the facilities spur track. At this time, an employee of the lumber yard instructed the conductor that the car closest to the locomotive, TTZX 864041, was to be spotted at the north end of the facility in the "7 spot".

After spotting five cars at the bunter, the conductor said he set a handbrake on the southern most car. The conductor then uncoupled the remaining car at the south end of the facility. In his first statement to FRA given on March 27, 2008, the conductor said he then proceeded to walking north along the spur and back towards spot 7, while the train and single car were backing north toward spot 7.was in a northward motion. In a subsequent interview given on April 8, 2008, and a deposition given on June 3, 2009, he stated that he rode on the cut lever and applied the hand brake while the car traveled in a northward motion. Between the conductor's first and second interview statements, he reviewed a copy of the download from the event recorder of locomotive CSXT 6243 for March 25, 2008 with CSX officials. The event recorder showed that the locomotive did not move for 26 seconds. Time testing on the same equipment concluded it was impossible for the conductor to have walked back to the south end of the car, set the handbrake, and walked back to the locomotive in that amount of time. Although the conductor claimed he had the engineer pull forward because he was unable to uncouple the car; the event recorder did not show any directional changes to release pressure on the coupler of the locomotive.

The Cohenno employee followed the movement because he wanted to instruct the conductor exactly where to set the car for unloading the following day. The Cohenno employee was positioned at the south end of the TTZX 864041 rail car movement, kneeling down, using hand signals to inform the conductor when to stop. The conductor was positioned at the north end of the car during the move. (According to the conductor's statement, the Cohenno employee was standing). In the second statement given to FRA on April 8, 2008, the Cohenno employee who assisted the conductor spot the car said that after the car was spotted, he turned and walked back into the facility but was uncertain whether the conductor walked to the south end of the car to set the hand brake before the locomotive departed the facility.

In the first statement given to the MBTA police on March 26, 2008, the Cohenno employee who helped the CSX conductor spot car TTZX 864041 said he saw the conductor "climb onboard the engine without setting the handbrake on the car at the 7 spot".

After departing the Cohenno spur at approximately 12:00 p.m., the conductor placed the derail in the up and derailing position and lined the electric lock switch for main line traffic. The train then proceeded north through the Stoughton branch, back to the Northeast Corridor, through the Junction Interlocking, and to the industrial park at Rt. 128 to stop for lunch. After lunch, the crew performed switching operations at the industrial park and re-entered the Northeast Corridor at 3:30 p.m. The train returned to the Readville Yard at 4:00 p.m. and the crew tied up at 5:50 p.m.

#### MBCR TRAIN 917

The crew of MBCR Train 917 south consisted of a locomotive engineer, a conductor, and an assistant conductor. The assistant conductor first went on duty at 7:33 a.m. EST, March 25, 2008 at Stoughton, Massachusetts. The engineer and conductor first went on duty at 1:05 pm EST, March 25, 2008 at Pawtucket, Rhode Island. All crew members received more than the required statutory off-duty rest period prior to reporting for duty.

From west to east, the assigned passenger train consisted of locomotive XMBT 1030, passenger coach cars 651, 622, 603, 610, 214, and control car 1523. The MBCR 917 train had received the required interior and exterior inspections, and a class 1 train air brake test. The train was scheduled to operate from South Station to Stoughton, making the following station stops: Back Bay, Ruggles, Hyde Park, Route 128, Canton Junction, Canton Center, and Stoughton.

THE ACCIDENT

## MBCR TRAIN 917

After stopping at Route 128 for a scheduled passenger stop, the train proceeded on a clear cab signal (MAS) towards Junction Interlocking. The Junction Interlocking switch was lined for movement onto the Stoughton

branch. At 5:09 p.m. a track occupancy indication on the Stoughton branch knocked down the established route and the cab signal changed to an approach indication (45mph). The Branch Line train dispatcher contacted the locomotive engineer to inform him that he would not be able to display a favorable signal indication at Center Interlocking on the Stoughton Branch and for the engineer to contact him after stopping at the signal to receive permission to operate by it. The engineer acknowledged the instructions and said that he would comply. At 5:14 p.m., the engineer contacted the Amtrak Corridor dispatcher to inform him that the signal at Junction Interlocking revealed a stop indication and that he now had a restricting cab signal indication. While speaking with the dispatcher, the engineer observed a free rolling rail car had come off of the Stoughton Branch Line and was on a collision course with MBCR Train 917. He then asked the dispatcher for permission to make a reverse move to try and avoid the collision. Having not received a response from the dispatcher within a reasonable amount of time, the engineer informed the dispatcher that he was going to make a reverse move and received concurrence from the dispatcher while coming to a stop. The engineer placed the reverser handle from forward to reverse which caused ACSES to enforce a penalty application of the braking system. While trying to recover from this condition and make a reverse movement, the lumber car struck the train. The engineer's next communication with the dispatcher was an emergency transmission to inform him that the lumber car had struck the train and to send medical assistance to the location.

### RAIL CAR TTZX 864041

Rail car TTZX 864041 was one of six loaded cars delivered to the Cohenno lumber facility by CSX Train B710 -25 at 12:00 p.m. that day. While the other five cars were spotted at the southern most point of the facility, car TTZX 864041 was spotted on the north side of the facility with assistance from an employee of the facility. At 5:10 p.m., a Cohenno employee placed a 911 call to the Stoughton 911 dispatcher. He explained that the car had rolled free out of the facility and onto the main line track of the Stoughton Branch Line heading in a northward direction. The car traveled over the derail located at the north end of the facility and through the electric lock switch onto the main line of the Stoughton Branch heading towards the Northeast Corridor while reaching speeds in excess of 39 miles per hour. As the car entered the main line of the Stoughton Branch the signals displayed for the commuter train on the Stoughton Branch went to stop. After entering the Northeast Corridor at Junction Interlocking, the car crossed from Main Track Number Two to Main Track Number One and into the path of the oncoming commuter train. The car cleared the limits of the interlocking and the A end of the car struck the stopped commuter train approximately 500 feet east of the interlocking. The car impacted the train at an estimated speed of 23 miles per hour and caused the train to move approximately 47 feet backwards before coming to a stop.

ANALYSIS AND CONCLUSIONS

ANALYSIS - MBCR TRAIN 917:

At the accident site, locomotive XMBT 1030 sustained severe front end damage as a result of the collision with the flat lumber rail car TTZX 864041. Due to the double track main line traffic danger MBCR Train 917 was initially inspected only on one side and in the interior by MP&E and OP inspectors. Damage was noted to some of the suspension parts of the passenger coach car wheel sets. The interior inspection revealed many seats and seat backs had become dislodged and were lying on the floor. One window rubber had been pulled out and was hanging, but the window was still in the original position in the frame. The locomotive was not running and inspectors were unable to perform brake testing or safety device testing at that time. The 1173 forms and the MAP 100 for the locomotive, cab car and coaches were on board the equipment and current. No defects were noted on the forms.

Volpe Center engineers conducted a crash worthiness investigation following the accident and a report of the findings is included.

On April 2, 2008, at the Boston Engine Terminal in Boston, MA, a Class 1 brake test was performed with all equipment from the original MBCR Train 917 from the accident. The FRA inspector used locomotive XMBT 1030, and coach cars 214, 610, 603, 651, 622, and cab car 1523 for the re-creation testing. All brakes performed as required and no exceptions were noted. The test was recorded on an F6180.96 inspection form and included with this report.

# CONCLUSION:

All equipment on MBCR Train 917 had the proper inspections and in full compliance with Federal Regulations.

ANALYSIS - On March 28, 2008, MBTA police obtained a search warrant from Stoughton District Court to search TTZX 864041 at CSX Readville Yard, for "trace evidence of tampering by unknown persons" and to test the train brake system to determine if it had failed. Also, to examine the wheels and undercarriage of the car for trace evidence.

On March 29, 2008, FRA, MBTA police, TTX, CSX, and MBCR lawyers and officials assembled at CSX Readville Yard to execute the warrant. During the accident, damage to the hook and eye brake system rendered the handbrake on the A end truck in-operative. All parties agreed to apply the handbrake and test the B end truck because it was intact. The car was still loaded with lumber at the time of the test. The locomotive CSXT 6243 was used to pull the car and check resistance after the handbrake was applied. The handbrake held the car and required upwards to 300 + amps of traction motor power to move the car. This test was repeated three times and officials agreed that even half operational the handbrake worked when applied.

## CONCLUSION:

With only half of the handbrake operational on rail car TTZX 861041, the handbrake still had sufficient resistance to hold the loaded car.

## ANALYSIS - RAIL CAR TTZX 864041:

Rail car TTZX 864041 is a flat car approximately 80'long with a beam in the center of the car extending from end to end to accommodate lumber loads. The car was built 6/30/98 and equipped with a NYAB, 60L Single Slide Control Valve Assembly with a DB-10 Service portion, a DB-20L emergency portion, and a KM-2 Vent Valve. The car is equipped with a body mounted 8 1/2"X 12" brake cylinder with a "hook and eye" brake arrangement and a 2000-DJ slack adjuster. The car has a gross rail load of 286,000 pounds. The car is equipped with a group N handbrake, Elcon National model 31000-2. Repair records indicated the hand brake is the original for that car, but the hand brake wheel had been replaced on March 2001. The last single car test was performed 5/06/2008 on the Union Pacific RR according to UMLER records for this car.

Rail car TTZX 864041 rolled out of Cohenno spur in Stoughton, MA, over a derail, down the Stoughton Branch and onto the North East Corridor to Canton Junction where the A end of the loaded 140 ton lumber car impacted the front end of locomotive XMBT 1030 of standing MBCR Train 917, pushing the train backwards 46.93 feet. The impact caused train 917's equipment to accelerate, up to 10 mph, in reverse, with 28 pounds of brake cylinder pressure on the locomotive and a full service brake application on the cars.

FRA required CSX to remove all brake equipment from car TTZX 861041, which included all air brake portions, empty load device, handbrake assembly, brake cylinder and slack adjuster for testing. FRA noted the pipe bracket flange to the cut out cock was broken from the impact along with the A end angle cock and associated piping. Therefore, integrity of the piping of this car was impossible to test.

## CONCLUSION:

On June 12, 2008, the handbrake and slack adjuster were tested by the manufacturer, Elcon National, in Greenville, South Carolina. The hand brake and slack adjuster performed as they were designed. FRA contacted Elcon National after the testing and asked if any of the internal parts were damaged or worn that might cause the handbrake to release during the impact. Elcon National's Manager replied that no parts were worn or broken on the handbrake he inspected. On July 10, 2008, testing was performed in Wilmerding, PA., on the S-1 load sensor and a P-1 proportioning valve that was removed from car TTZX 864041. Testing was performed using AAR-S-486-04 Single Car Test Specifications. The tests were: Service Stability Test, Minimum Application and Quick -Service Limiting Valve Test, and Manual Release Valve Test. Empty pressure was 38 pounds and loaded pressure was 64 pounds with no leakage. This test was repeated twice with the same results. These valves performed as designed.

On July 1, 2008, New York Air Brake (NYAB) and CSX conducted a visual inspection of the air brake system components to ensure these were in fact from the TTZX 864041 car. These components were: DB-20L Emergency Portion, DB-10 Service Portion, KM-2 vent valve, brake cylinder and retaining valve. All were air tested according to Single Car Test Standard; AAR S-486-04 using NYAB/AAR approved Computerized Single Car Testing Device. All test results are included in this report in the mechanical section. All portions passed the SCT testing. No defects were noted on the valves removed from car TTZX 864041 and tested by NYAB.

## ANALYSIS-

On March 29, 2008, at CSX Readville Yard, while executing the MBTA police warrant, the TTZX 864041 car was further inspected by all present after the handbrake testing. An inspection of the wheels was done and paint was noticed on all four wheels on the right side. Paint was noticed on the throat area of the wheel flange and backside of the wheel flanges for about a distance of 2 feet on R#3+4 wheels. Only small amounts were noticed on the R#1 and R#2 wheels. Samples were taken from the wheels and the derail removed from the Cohenno spur for comparison.

#### CONCLUSION-

The paint from the wheels and the paint from the derail were matched in the Massachusetts State Police laboratory. A second test was conducted by CSX. That test concluded the paint on the wheels had come from the Cohenno spur derail. The car's wheels had come in contact and run over that same derail at Cohenno spur. This derail and associated parts was removed on March 26, 2008, by MBCR and placed in a locked container on MBTA property.

### ANALYSIS - TOXICOLOGICAL TESTING:

The three crew members on the MBCR Train 917 were not toxicologically tested. The two CSX crew members were post accident tested under Federal authority and the results were negative.

CONCLUSION-

Intoxication was not a factor in this accident.

## ANALYSIS - DERAIL:

The derail at the Cohenno Spur of the Stoughton Branch was manufactured by Western Cullen Hayes Inc. and was a model HB size number 6 single directions derail. It was connected through an operating rod to a RACOR model 20B trailable switch stand recommended for use in yard, ladder, and other busy turnouts where switches are more apt to be accidentally trailed. It was also interconnected with the signal system through a Union Switch & Signal switch circuit controller box that places a track circuit occupancy indication on the main line in the event that the derail is in the down and non-derailing position. The derail was installed on the inside rail of a twelve degree curve and secured to the ties with rail spikes. Examination of this location after the accident indicated that the first two wheels of the lumber car rode over the top of the derail forcing it into the down and non-derailing position, and forcing the switch stand lever to throw to the corresponding position. These two wheels traveled approximately 4 feet on top of the rail before dropping back into proper riding position. There was also evidence that the derail was not properly seated on the rail while in the up and derailing position, and the switch circuit controller box was adjusted into this improper position. MBCR C&S testing standards were also determined to be insufficient, incorrect, and did not address this particular type of derail. It should also be noted that on March 26, 2008, MBTA and MBCR officials decided to remove all components of the derail from this location and transport them to their Cobble Hill facility in Somerville, Massachusetts, and that in doing so, hindered the investigation and contaminated evidence.

## CONCLUSION:

The derail was not properly installed or maintained. Recommendations for civil penalty were filed as a result

and the inspection report is included in this report.

#### ANALYSIS- Re-enactment:

On April 10, 2008, FRA informed CSX a re-enactment of the movements and events which occurred when placing the cars into the Cohenno spur on March 25, 2008 was requested. FRA requested the same locomotive used to place the cars, the day of the accident, be used, along with six cars of the same type, in the same order as the day the CSX crew placed them into the Cohenno spur. FRA requested the same crew participate as well. CSX informed FRA that the locomotive was still being held under court order and did not know when that would be lifted. CSX would assemble the requested based upon availability of equipment as the date neared. The engineer and conductor had secured private counsel and both initially agreed to participate in the re-enactment.

On April 15, 2009, in cooperation with CSX, FRA conducted the re-enactment. The same locomotive was present along with the same type of cars in the same order as March 25, 2008. The original engineer participated. The original conductor was not present. At approximately 11:30 p.m. the evening before the re-enactment was to take place, FRA received information from CSX and the conductor's counsel that the conductor would not participate in the re-enactment. CSX assigned another employee to participate in his place. FRA used statements from the CSX crew and the event recorder download provided by CSX from locomotive CSXT 6243 on March 25, 2008, to prepare some of the events of the re-enactment.

There were several questions FRA investigators had about the statements given to FRA by the engineer and conductor of CSX Train B710-25 switching job. First, the timing involved of aspects of the crew's statements was in question. The conductor stated he applied the handbrake to car TTZX 864041 while he was riding the B end of the car as it moved through Cohenno's building. The engineer stated he could hear the noise of the handbrake being applied approximately 100' away, while the locomotive was revving in the third notch and pulling car TTZX 864041 through the building with a full service brake reduction on the 140 ton car. The practice of riding cars is discouraged by CSX.

FRA had other questions that only a re-enactment could answer, as follows: Would the handbrake hold the loaded TTZX 864041 car securely at the "7 spot" at Cohenno's spur without air brakes applied and not roll away?; If the handbrake was not applied, and the air brakes were applied but bled off, would the car move without any assistance?

## CONCLUSION:

During the re-enactment, FRA simulated the spotting of the five cars at the bunter and then the application of the handbrake inside Cohenno's building. The locomotive was placed in the third notch and an FRA inspector, along with a recording device, was stationed in the cab of CSXT 6243. The object was to see if the noise of the handbrake could be heard from the engineer's position in the cab with ambient noise present. Exact circumstances surrounding the test were not recreated for safety reasons. The FRA inspector in the cab of the locomotive reported hearing the hand brake application very faintly. The recording of the test revealed no sound of the application of the handbrake being applied.

The movement of the equipment into the spur was done twice to answer all the questions the investigators had raised.

Rail Car TTZX 864041 was then moved to the "7 spot" and the handbrake applied. The brakes were bled off and the locomotive cut away. The car's handbrake held the car in position on the 7 spot.

Car TTZX 864041 was again moved to the 7 spot and the handbrake applied and the air brakes set. The handbrake was then released. The locomotive was cut away and moved in the reverse direction approximately 10 feet to catch the car if it rolled. The air brakes were released with the bleed rod simulating leaking off of the air brakes. The car's brakes released and the car began moving rapidly toward the locomotive. The locomotive caught the car and stopped it. The car would in fact move without any assistance when the air brakes bled off.

### ANALYSIS-COHENNO MOVED THE CAR-

Initially, accusations of Cohenno employees moving the TTZX 864041 car were raised because of the relationship of the spotted car and a light pole. There were concerns that the light pole would interfere with the unloading of the spotted car. FRA interviewed all Cohenno employees and discovered that they had moved cars in the past. All were asked if they participated in moving, bumped or saw anyone in or around the TTZX 864041 around 5:00 p.m. on March 25, 2008. They all responded no. Further, FRA could find no reason for Cohenno employees to move the TTZX 864041 car from the 7 spot. The employee charged with unloading the car had assisted the conductor in spotting the car and had it placed exactly where he wanted it and confirmed it an interview and deposition dated December 5, 2008. All the cables of the load were in place, undisturbed; indicating that unloading was not eminent.

### CONCLUSION:

There was no evidence found by FRA which would lead investigators to conclude that the car was being moved by Cohenno employees.

#### ANALYSIS:

As a part of FRA investigation of this incident, investigators looked into the compliance history of the CSX train crew. It was discovered that the conductor had been disciplined prior to this incident for not applying hand brakes to a standing cut of cars left at the Rte. 128 industrial park at Home Depot in 2002. This was confirmed by the conductor in his June 3, 2009 deposition.

Further investigation of the conductor's work history revealed he had been counseled for other rules infractions by CSX.

On 9/9/2002, he was written up and given verbal counseling for his crew's locomotive derailing after running over a derail. His supervisor noted the conductor never left the lobby and sent the utility employee to do his work. He was counseled and corrective action is that he will be outside where the work is in the future.

On 9/26/2002, he was written up again for failure to perform a proper initial terminal brake test on the CSX Train B710-26 at CSX Readville Yard in Boston, MA. This was not only a CSX rules violation, but also a Federal regulation violation.

On 9/24/2002, he was written up for leaving ten freight cars unattended on a steep grade with only the air brakes to hold them. This is also not just a CSX rules violation but a Federal regulation violation.

On 9/25/2002, during another CSX rule infraction of standing on the rail while performing work, the conductor commented to the Trainmaster that "no work would get done if safety rules were obeyed".

Warren Trask is another CSX customer receiving lumber by rail car. Their facility is located next to the Cohenno facility with a separate spur. On 4/1/09, FRA interviewed the Warren Trask Facility Manager. In his statement, he claimed that on two separate occasions, December 2007 and January 2008, the CSX crew had left single cars at their facility and not set handbrakes. The facility Manager stated, while unloading one car, it began to move. Fortunately, the forklift operator caught the car with the forklift. He noticed the hand brake was not applied. He then applied a handbrake to the car. The same CSX conductor worked this job during these same time periods noted above. A deposition from the Warren Trask Manager was voluntarily submitted to FRA and is included in this report.

During the conductor's deposition on June 3, 2009, he admitted that he constantly broke CSX safety rules while placing cars at Cohenno industry spur.

#### CONCLUSION:

The conductor has a history of non compliance with failing to properly secure unattended equipment and not following CSX and Federal safety rules and regulations.

#### ANALYSIS:

The night of the accident, an MBTA Police Lt. Detective went to Cohenno's to investigate the derail and the other five cars left at the Cohenno facility by the conductor of CSX B710-25 earlier that day. The police officer was a former train and engine service employee and familiar with rail cars. He witnessed no handbrakes on any of the five cars left at Cohenno. He did this by shaking the handbrake chain. He stated the handbrake chains on all five cars were "loose". He did see the brake cylinders out on each of the five cars because they still held air and had not leaked off. The MTA police lieutenant's statement is included in this report.

### CONCLUSION:

MBTA police concluded that none of the hand brakes were applied on the five rail cars remaining at Cohenno Terminal Inc.

## ANALYSIS:

An Amtrak police officer was among the first to arrive at the accident scene at Canton Junction. The officer was a former train and engine service employee and thought to secure the equipment. He went to the TTZX 864041, the car that impacted MBCR Train Number 917, and found that the handbrake on the car was not applied. He applied it with an undetermined amount of turns of the handbrake wheel. The Amtrak officer's statement is included in this report.

### CONCLUSION:

The Amtrak police officer found that the hand brake on car TTZX 864041 was not applied.

OVERALL CONCLUSIONS:

PROBABLE CAUSE AND CONTRIBUTING FACTORS

The probable cause of the accident was either the failure to initially apply handbrake on rail car TTZX 864041 when the car was initially spotted at the Cohenno facility or that it was subsequently released at a later time. A major contributing factor of this accident was the ineffectiveness of the derail switch at the facility to derail the car prior to it reaching the main line of the Stoughton branch`