




Implications of Remote Monitoring to Rule 95 Handbrake Left Applied

Mitsui Rail Capital, LLC - Montreal - October 18, 2010

“Please Release Me... Let Me Roll”



SPALLING... A costly problem caused by wheel slides. What you can do to help prevent it.

This video focuses on the importance of making sure ALL handbrakes are released on rail cars BEFORE they are moved.

Transportation Technology Center, Inc.
55500 DOT Road
P.O. BOX 11130
Pueblo, CO 81001

TTCI is a subsidiary of the
Association of American Railroads

“Please Release Me... Let Me Roll”

TTCI
Transportation
Technology Center, Inc.

DVD

The link between inadequate release of the handbrakes and wheel damage has already been established as a significant industry issue.

Case Study: (500) '05 Built - 53' Well Cars w/Truck Mounted Brakes



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The repair billing records show 1022 wheelsets were replaced between 6/30/2005 and 1/19/2009 at a cost of \$1.19M (excluding labor and jacking).

955 B-end vs. 67 A-end Wheelsets

Therefore,

\$1.03M of \$1.19M on the B-end

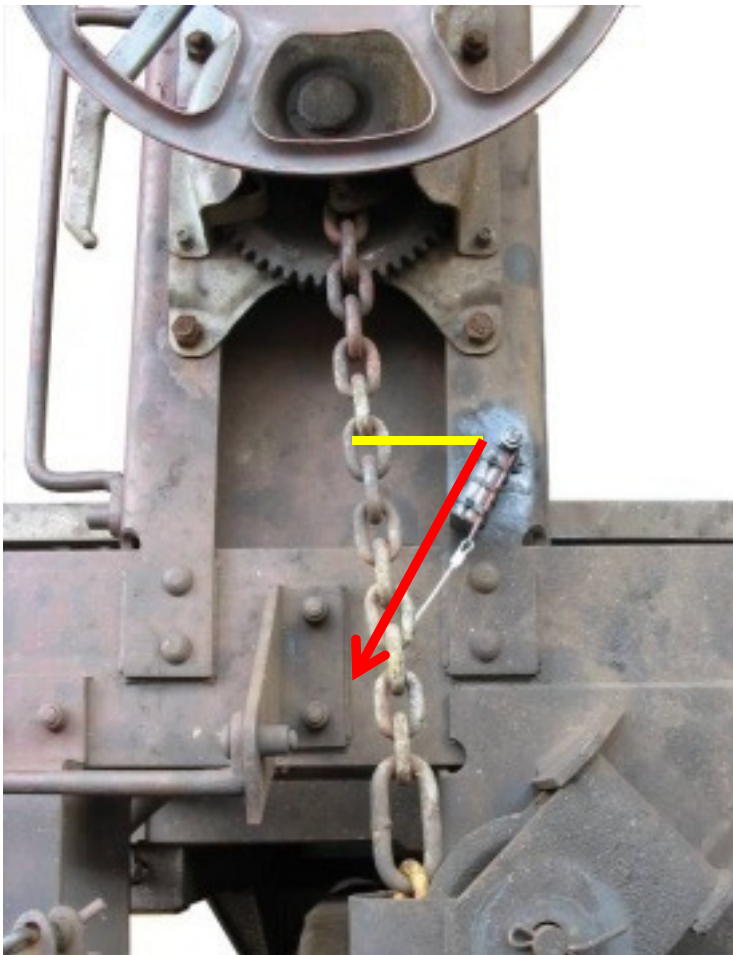


Additionally, there were 260 open EHMS WILD alerts;

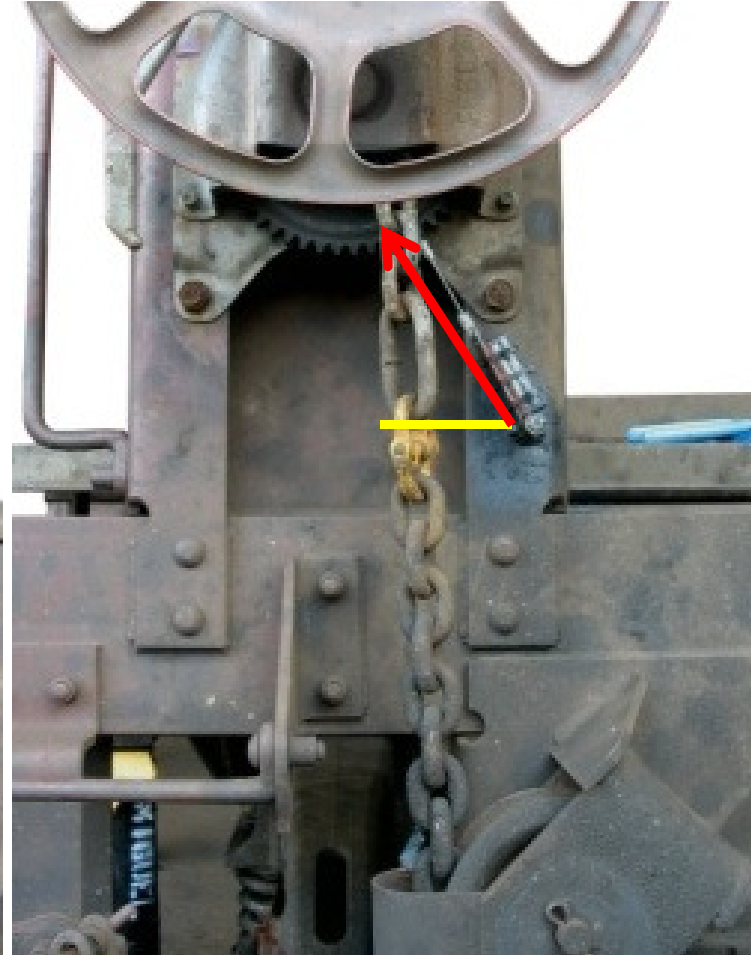
242 B-end vs. 18 A-end wheels

Remote Monitoring of the Handbrake

MRC equipped 20 cars with remote handbrake monitoring devices and has actively collected data on railcars moved with and without the handbrake applied since February 2009.



Handbrake Off: tilt sensor rotated below horizontal

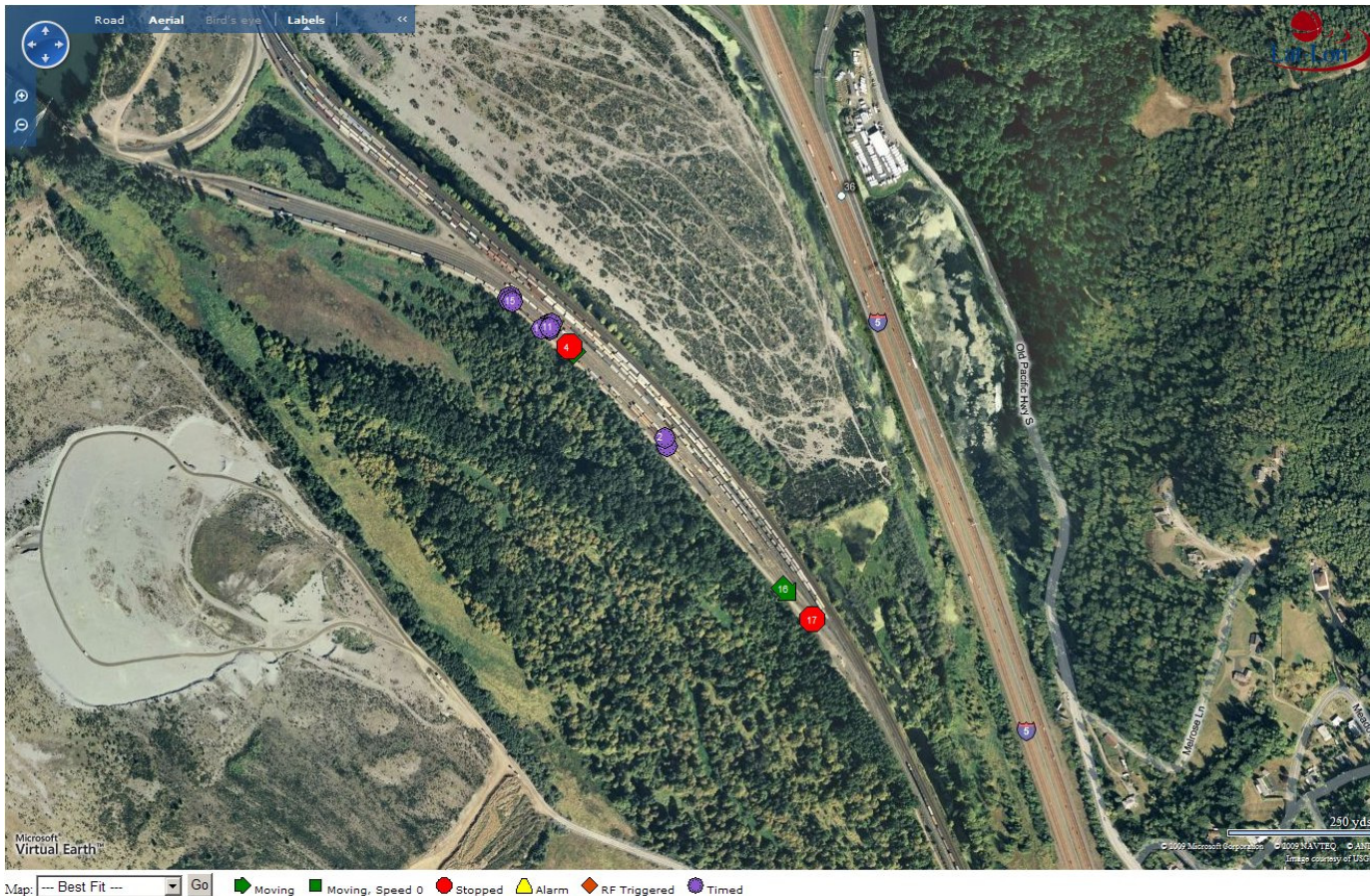


Handbrake On: tilt sensor rotated above horizontal



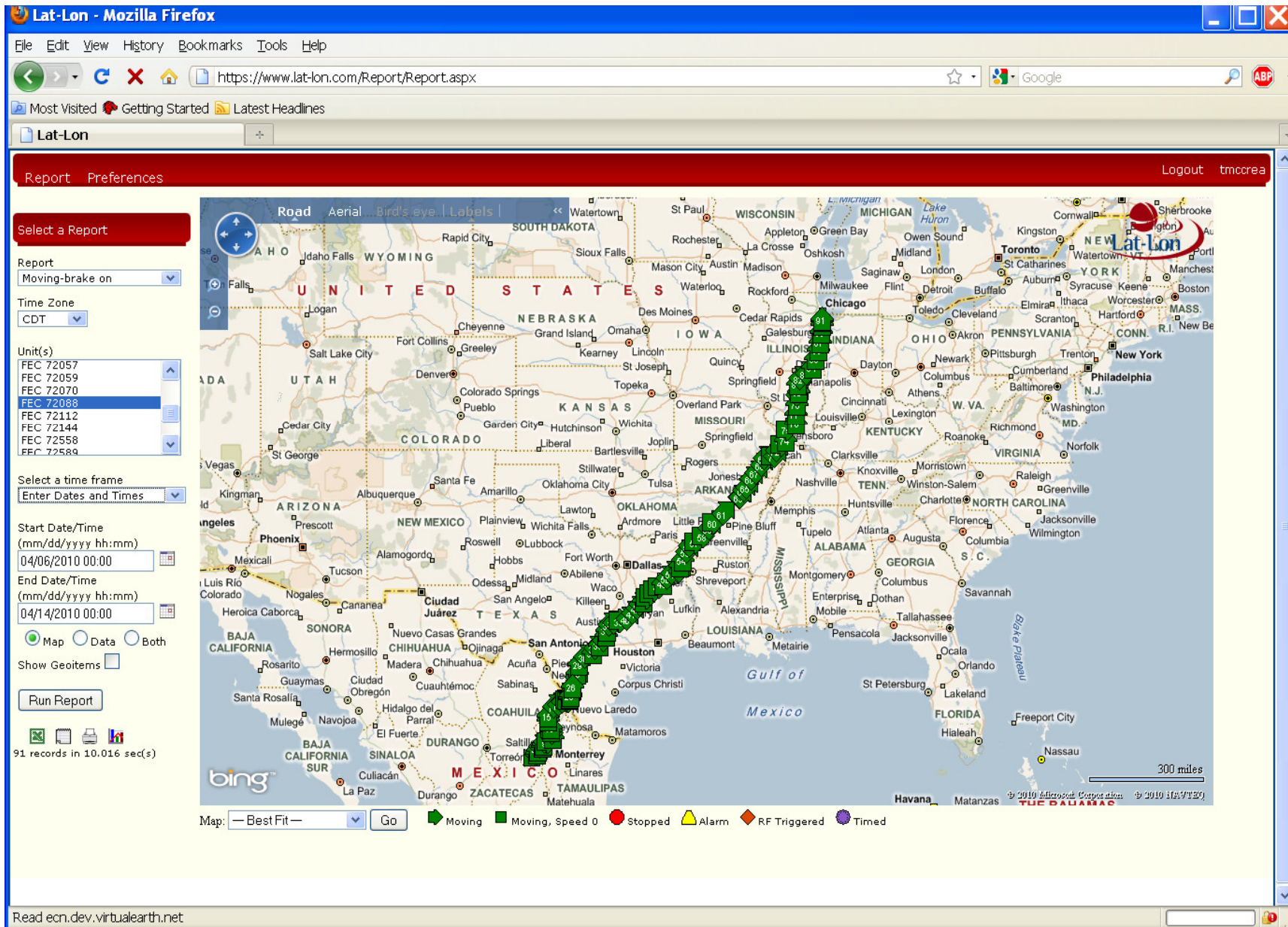
A separate solar-powered GPS device records and transmits car position, car movement and handbrake sensor data.

Handbrake & GPS sensors record when and where a handbrake is applied and released along with the movement of the railcar.



#	Date/Time	Unit	Msg Type	Location	Speed	Direction	S1 Trans D/T	S1 y tilt	Notes
11	4/29/2009 0:00	FEC 71574	Move End	2.7 mi E of Rainier, OR, US	0	0	4/28/2009 23:45	426	Move End at midnight
12	4/29/2009 1:01	FEC 71574	Timed	2.69 mi E of Rainier, OR, US	0	0	4/29/2009 0:45	532	Hand Brake set as of 12:45
13	4/29/2009 2:00	FEC 71574	Timed	2.68 mi E of Rainier, OR, US	0	0	4/29/2009 1:45	532	
23	4/29/2009 11:41	FEC 71574	Move Begin	2.85 mi E of Rainier, OR, US	4	136	4/29/2009 10:45	545	Move Begin at 11:41
24	4/29/2009 11:45	FEC 71574	Move End	2.87 mi E of Rainier, OR, US	0	0	4/29/2009 11:45	545	Hand Brake still set as of 11:45
33	4/29/2009 12:57	FEC 71574	Move Begin	1.77 mi SE of Kalama, WA, US	24	152	4/29/2009 12:45	544	
34	4/29/2009 13:08	FEC 71574	Move Timed	0.79 mi SW of Woodland, WA, US	48	176	4/29/2009 12:45	544	Speed reached 48 mph
43	4/29/2009 15:03	FEC 71574	Move End	1.84 mi N of Portland, OR, US	0	0	4/29/2009 14:45	544	Hand Brake still set as of 14:45

Handbrake & GPS sensors record when and where a handbrake is applied and released along with the movement of the railcar.



Handbrake & GPS sensors record when and where a handbrake is applied and released along with the movement of the railcar.

#	Date/Time	S1 Trans D/T	Unit	Msg Type	Location	Speed	Direction	S1 y tilt	S1 y dig
16	4/6/2010 8:04	4/6/2010 7:45 FEC 72088		Move Timed	1.16 mi NW of Ejido Angostura, Coahuila de Zaragoza, MX	28	184	428	0
17	4/6/2010 8:37	4/6/2010 7:45 FEC 72088		Move Timed	1.36 mi NW of Encantada, Coahuila de Zaragoza, MX	0	0	428	0
18	4/6/2010 9:08	4/6/2010 8:45 FEC 72088		Move End	1.37 mi NW of Encantada, Coahuila de Zaragoza, MX	0	0	521	1
19	4/6/2010 10:00	4/6/2010 9:45 FEC 72088		Timed	1.37 mi NW of Encantada, Coahuila de Zaragoza, MX	0	0	519	1
20	4/6/2010 11:00	4/6/2010 10:45 FEC 72088		Timed	1.37 mi NW of Encantada, Coahuila de Zaragoza, MX	0	0	518	1
21	4/6/2010 11:30	4/6/2010 10:45 FEC 72088		Move Begin	1.95 mi W of Encantada, Coahuila de Zaragoza, MX	8	226	518	1
22	4/6/2010 12:00	4/6/2010 11:45 FEC 72088		Move Timed	1.97 mi SE of Refugio Jose de la Joya, Coahuila de Zaragoza, MX	0	0	451	0
23	4/6/2010 12:31	4/6/2010 11:45 FEC 72088		Move End	1.97 mi SE of Refugio Jose de la Joya, Coahuila de Zaragoza, MX	0	0	451	0
24	4/6/2010 13:01	4/6/2010 12:45 FEC 72088		Timed	1.97 mi SE of Refugio Jose de la Joya, Coahuila de Zaragoza, MX	0	0	539	1
25	4/6/2010 13:31	4/6/2010 12:45 FEC 72088		Move Begin	2.01 mi SE of Refugio Jose de la Joya, Coahuila de Zaragoza, MX	0	0	539	1
26	4/6/2010 14:00	4/6/2010 13:45 FEC 72088		Move Timed	2.3 mi SE of Refugio Jose de la Joya, Coahuila de Zaragoza, MX	0	0	540	1
27	4/6/2010 14:30	4/6/2010 13:45 FEC 72088		Move End	2.3 mi SE of Refugio Jose de la Joya, Coahuila de Zaragoza, MX	0	0	540	1
284	4/14/2010 2:02	4/14/2010 1:45 FEC 72088		Move End	1.03 mi S of Dolton, IL, US	0	0	533	1
285	4/14/2010 3:00	4/14/2010 2:45 FEC 72088		Timed	1.03 mi S of Dolton, IL, US	0	0	533	1
286	4/14/2010 4:01	4/14/2010 3:45 FEC 72088		Timed	1.03 mi S of Dolton, IL, US	0	0	532	1
287	4/14/2010 5:00	4/14/2010 4:45 FEC 72088		Timed	1.03 mi S of Dolton, IL, US	0	0	531	1
288	4/14/2010 6:00	4/14/2010 5:45 FEC 72088		Timed	1.04 mi S of Dolton, IL, US	0	0	531	1
289	4/14/2010 7:00	4/14/2010 6:45 FEC 72088		Timed	1.04 mi S of Dolton, IL, US	0	0	531	1
290	4/14/2010 8:02	4/14/2010 7:45 FEC 72088		Move Begin	1.01 mi S of Dolton, IL, US	0	0	429	0
291	4/14/2010 8:30	4/14/2010 7:45 FEC 72088		Move Timed	1.13 mi N of South Holland, IL, US	3	358	429	0
292	4/14/2010 9:01	4/14/2010 8:45 FEC 72088		Move Timed	0.49 mi NW of South Holland, IL, US	8	178	429	0

Request for AAR Rules Review



Mitsui Rail Capital, LLC
 An affiliate of Mitsui & Co., Ltd.
 71 South Wacker Drive, Suite 1800
 Chicago, Illinois 60606
 Phone 312-803-8880
 Fax 312-803-8890

January 20, 2010

Thomas J. Stahura
 Executive Director, Rules and Standards
 Association of American Railroads
 50 F Street N.W.
 Washington D. C. 20001-1564

Subject: Wheel Damage from Inadequate Release of the Handbrake

Mr. Stahura,

Over the past several years, the Advanced Technology Safety Initiative (ATSI) has resulted in changes to the Interchange Rules that are intended to reduce stress on the rail infrastructure and improve safety. The most significant change is related to the introduction of Wheel Impact Load Detectors (WILD). Implementation of WILD has significantly increased the number of wheels being replaced each year.


As currently written, we believe Rule 41 requires wheels to be replaced prematurely due to high impact readings, resulting in significant cost for the car owner, without sufficient recourse to the party responsible for the damage to the wheels. The following case study clearly illustrates wheels replacements that were caused by inadequate release of the handbrake prior to moving the cars. As such, we are proposing a change to Rule 95 to address this issue.

Case Study:

Florida East Coast, LLC has a group of five-hundred (500) railcars built in 2005 with handbrakes that only affect the wheels on one end of the railcar (commonly known as the B-end of the railcar). The repair history data for these railcars (see FEC8-19-09.pdf) shows there were a total of 1022 wheelsets replaced in the period from 6/30/2005 thru 1/19/2009. The breakdown of wheelsets on the A-end (see FEC8-19-09 am12.pdf) and B-end (see FEC8-19-09 am34.pdf) of the cars demonstrates the following:

- o 868 B-end wheelsets for tread defects (such as out-of-round, ribbed treads, and tread build-up.)
- o 87 B-end wheelsets for wheel wear defects (such as high flange and/or thin flange).
- o 37 A-end tread defects (such as out-of-round, shelled treads, and tread build-up.)
- o 30 A-end wheel wear defects (such as high flange and/or thin flange).


Chicago Des Moines




Billing Repair Card

Organization: Mitsui Rail Capital
 Owner Mark: MBKX

Criteria:
 (AAR_JOB_CODE_APPLIED IN (3021,3031))
 (AAR_LC_DESC_AAR_LOCATION_CODE IN (R1/R2/L1/L2))
 (AAR_WMC_DESC_AAR_WHY_MADE_CODE NOT IN (11))
 (RAILCAR_MARK_CAR_NUMBER BETWEEN 71550
 72677))
 RAILCAR_MARK_REF_MARK = 'FEC'




Mark	Number	Repair Date	Shop	Location	RL	G	CC	JCA	GA	Description	WMC	JCR	QR	Resp	Net Amount
FEC	71560	12/14/2005													
FEC	71560	12/14/2005													
FEC	71560	12/28/2006													
FEC	71560	05/04/2007													
Total for FEC071562															
\$0.00															
FEC	71561	06/20/2008													
FEC	71561	06/20/2008													
Total for FEC071562															
\$0.00															
FEC	71562	06/01/2007													
FEC	71562	06/01/2007													
FEC	71562	07/13/2008													
FEC	71562	07/13/2008													
Total for FEC071562															
\$0.00															
FEC	71563	03/23/2007													
FEC	71563	03/23/2007													
FEC	71563	03/23/2007													
FEC	71563	03/23/2007													
Total for FEC071563															
\$0.00															
FEC	71564	01/11/2008													
FEC	71564	01/11/2008													
Total for FEC071564															
\$0.00															
FEC	71565	02/19/2008													
FEC	71565	02/19/2008													
FEC	71565	02/19/2008													
FEC	71565	02/19/2008													
Total for FEC071565															
\$0.00															
FEC	71566	06/17/2006													
FEC	71566	06/17/2006													
FEC	71566	06/14/2007													
FEC	71566	06/14/2007													
Total for FEC071566															
\$0.00															
FEC	71567	09/21/2008													
FEC	71567	09/21/2008													
Total for FEC071567															
\$0.00															




Billing Repair Card

Organization: Mitsui Rail Capital
 Owner Mark: MBKX

Criteria:
 (AAR_JOB_CODE_APPLIED IN (3021,3031))
 (AAR_LC_DESC_AAR_LOCATION_CODE IN (R3/R4/L3/L4))
 (AAR_WMC_DESC_AAR_WHY_MADE_CODE NOT IN (11))
 (RAILCAR_MARK_CAR_NUMBER BETWEEN 71550
 72677))
 RAILCAR_MARK_REF_MARK = 'FEC'



Mark	Number	Repair Date	Shop	Location	RL	G	CC	JCA	GA	Description	WMC	JCR	QR	Resp	Net Amount
FEC	71562	10/12/2008	GLC	191650	R3	1.00	4	3021	02	WHEEL 33" 1W HT-CP	64	3021	03	1	\$0.00
Total for FEC071562															
\$0.00															
FEC	71571	12/01/2007	GLC	876426	L4	1.00	4	3021	02	WHEEL 33" 1W HT-CP	64	3021	03	1	\$0.00
FEC	71571	05/04/2008	GLC	845212	L3	1.00	4	3021	02	WHEEL 33" 1W HT-CP	90	3021	03	1	\$0.00
FEC	71571	05/24/2008	GLC	845212	R3	1.00	4	3021	02	WHEEL 33" 1W HT-CP	60	3021	03	1	\$0.00
Total for FEC071571															
\$0.00															
FEC	71576	06/03/2008	GLC	883619	R3	1.00	4	3021	02	WHEEL 33" 1W HT-CP	60	3021	03	1	\$0.00
Total for FEC071576															
\$0.00															
FEC	71577	10/29/2008	GLC	845203	L3	1.00	4	3021	02	WHEEL 33" 1W HT-CP	90	3021	03	1	\$0.00
FEC	71577	10/29/2008	GLC	845203	R3	1.00	4	3021	02	WHEEL 33" 1W HT-CP	64	3021	03	1	\$0.00
Total for FEC071577															
\$0.00															
FEC	71567	09/21/2008	GLC	883000	R4	1.00	4	3021	03	WHEEL 33" 1W HT-CP	75	3021	02	1	\$0.00



Map: Best Fit | Moving | Moving Speed 0 | Stopped | Alarm | RF Triggered | Timed

#	DATE/TIME	RECEIVE DATE/TIME	MESSAGE TYPE	UNIT NAME	GEOGRAPHY	GEOFENCE	LAT/LON	COURSE	SPEED	SECOND_FROM_PREVIOUS_MESSAGE
7	10/31/2009 12:21:55 PM	10/31/2009 12:22:17 PM	Timed	FEC 72635	3.24 mi NE of Richland, MS, US	32.251513, -90.141005	0	0	0	3571
8	10/31/2009 1:03:39 PM	10/31/2009 1:03:58 PM	Timed	FEC 72635	1.34 mi NE of Richland, MS, US	32.251497, -90.140542	0	0	0	3704
9	10/31/2009 2:03:53 PM	10/31/2009 2:04:13 PM	Timed	FEC 72635	1.34 mi NE of Richland, MS, US	32.251558, -90.140548	0	0	0	3814
10	10/31/2009 3:00:30 PM	10/31/2009 3:01:15 PM	Timed	FEC 72635	1.34 mi NE of Richland, MS, US	32.251502, -90.140565	0	0	0	3397
11	10/31/2009 3:40:57 PM	10/31/2009 3:41:17 PM	Move Begin	FEC 72635	1.32 mi NE of Richland, MS, US	32.251532, -90.141463	0	0	0	2427
12	10/31/2009 3:46:00 PM	10/31/2009 3:46:20 PM	Move End	FEC 72635	1.34 mi NE of Richland, MS, US	32.251645, -90.141103	0	0	0	303
13	10/31/2009 4:00:51 PM	10/31/2009 4:01:10 PM	Timed	FEC 72635	1.34 mi NE of Richland, MS, US	32.251625, -90.140968	0	4	0	891
14	10/31/2009 4:05:56 PM	10/31/2009 4:06:16 PM	Move Begin	FEC 72635	1.38 mi NE of Richland, MS, US	32.251513, -90.139997	0	0	0	305
15	10/31/2009 4:10:54 PM	10/31/2009 4:11:15 PM	Move Timed	FEC 72635	1.43 mi NE of Richland, MS, US	32.250418, -90.137897	6	6	6	298
16	10/31/2009 4:21:57 PM	10/31/2009 4:22:18 PM	Move Timed	FEC 72635	1.4 mi NE of Richland, MS, US	32.25097, -90.13904	196	13	13	863
17	10/31/2009 4:32:52 PM	10/31/2009 4:33:19 PM	Move Timed	FEC 72635	2.44 mi SE of Pearl, MS, US	32.243247, -90.112827	104	16	16	655
18	10/31/2009 4:44:42 PM	10/31/2009 4:45:03 PM	Move Timed	FEC 72635	1.03 mi NW of Brandon, MS, US	32.284178, -89.997938	48	39	39	710
19	10/31/2009 4:56:29 PM	10/31/2009 4:56:50 PM	Move Timed	FEC 72635	2.59 mi W of Pelahatche, MS, US	32.304158, -89.841512	74	55	55	707

MRC believes the current AAR rules should be reviewed and revised to permit the equitable recovery of such costs, if the responsible party can be identified.

The AAR Arbitration & Rules Committee assigned a TAG to investigate and make a recommendation on this issue.

