



**National Transportation Safety Board
Office of Railroad, Pipeline and Hazardous Materials Investigation
Washington, D.C. 20594**

Tank Car Inspection Summary

August 12, 2005
DCA-05-MR-008

Accident Information:

Location:	Graniteville, South Carolina
Date & Time:	January 6, 2005; 2:40 a.m.
Hazardous Materials:	(See Hazardous Materials Factual Report)
Injuries:	9 Fatalities, Severe injuries undetermined
Carrier:	Norfolk Southern Railway Company
Shipper:	Multiple
Transportation Mode:	Rail

Inspection Facility:

GATX Rail
Waycross Service Center
2610 Industrial Park Blvd.
Waycross, GA 31503

Participating Parties:

See Appendix A for all participating parties contact information.

Inspection Events:

Parties gathered at the GATX facilities in Waycross, GA from July 25-26, 2005 to inspect three tank cars (GATX 58326, GATX 17105, and SBLX 14146) that were relocated to this facility following their involvement in the Graniteville, SC accident in January 2005. The primary agenda for this meeting was performing 3D laser imaging of the three tank cars that would ultimately serve as forensic mappings of the cars; pinpointing damages, failures and/or weak points. Representatives from Direct Dimensions were on-site to perform this task.

Before any imaging work was done, GATX attempted to remove the outer jacketing and insulation from each of the cars, beginning with the ends. This turned out to be a difficult task for most and actually an impossible one for GATX 17105, whose insulation turned out to be flammable. This effort was halted for above said reasons, and Direct Dimensions performed the 3D laser imaging on the exterior of the three cars with remaining portions of jackets and insulation in place. As far as imaging the interior of the cars went, it was decided that a 2ft x 4ft section be incised from one end of each car for easy entry, setup and imaging (see Photo #10 in Appendix B). This task was completed and 3D imaging was successfully accomplished.

All efforts were finished by July 26th; according to Direct Dimensions the results of the 3D laser imaging should be available in late August 2005.

Damages:

All recorded damage from the original tank car inspection forms was reviewed and verified for each of the three cars on-site; GATX 58326, GATX 17105, and SBLX 14146. In addition, any further external damages discovered upon the July 26th inspection were documented. This information is available below, and corresponding photos and tank car inspection forms are attached.

Upon internal inspection of the tank cars, all interiors of the tank cars were intact and free of any tears or punctures. Several dents, all of varied size, shape and severity, to the inner shell were visible and have been documented. Please note that the various areas mentioned in quotation correspond to language found on the original tank car inspection sheets. More detailed information on these damages is available below, and photos and tank car inspection forms are attached.

GATX 58326 (Sodium Hydroxide Solun.)

External –

- Severe dent in left side¹ of shell near A-End. (Photo #1)
- Extensive damage to the top of car near A-End. (Photo #2)
- Cracked stub sill on left side. (Photo #3)
- NOTE: On original inspection form, A & B-Ends were mistakenly reversed.

Internal –

- Vanguard 7435 liner in place.
- Large indentation (>8”) – Top surface near A-End. (Photo #4)
- Large indentation (>8”) – Right side near A-End, coinciding with ‘bare tank’ area. (Photo #4)

¹ The left and right sides of tank cars are consistently identifiable as viewed from the B-End.

GATX 17105 (Chlorine)

External –

- Man-way housing deflected inwards.
- Attachment pad torn off at A-End.

Internal –

- Medium indentation (<4”) – Left side, coinciding with ‘y’ area. (Photos #5 & 6)
- Slight indentation (<2”) – Right side, coinciding with ‘torn jacket, stripped insulation’ area. (Photo #7 - external view)

SBLX 14146 (Chlorine)

External –

- Bolster at A-End displaced on both sides.
- Additional jacket denting on left side.
- Attachment pad separation & top shelf of coupler missing at B-End. (Photos #8-9)
- NOTE: Ultrasonic material thickness readings were taken at ‘head strike’ area of B-End; minimum thickness recorded equaled 0.675 inches. (Photos #10-11)

Internal –

- Sharp indentations (<4”) – B-End, consistent with ‘head strike’ area. (Photo #12)

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