

Appendix A
Hazardous Materials Group Factual
Tank Car Information

Graniteville, SC
DCA-05-MR-008

000001

Appendix A

Part 1

Hazardous Materials Group Factual

SBLX 14146

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

Page 1 of 2

1 APPROVAL REQUESTED OF: ☒ PRECEDENT ☐ NON-PRECEDENT

2 TYPE: ☒ CONSTRUCTION ☐ WELDED REPAIRS ☐ ALTERATION ☐ OTHER ☐ CONVERSION

3 AAR NO. F976026

4 DATE: APRIL 14, 1997

5 APPLICANT'S NO. 9683

6 APPLICANT: TRINITY INDUSTRIES, INC.
P.O. BOX 568887 DALLAS, TEXAS 75356-8887

7 TANK SPECIFICATION: DOT 105A500W

8 STENCILED SPEC.: DOT 105J500W

9 REPORTING MARKS & CAR NUMBERS SBLX 14000 - 14204

10 NUMBER OF CARS 205

11 Initial commodity	CHLORINE	12 Density, lb. per gallon	11.75 @ 70°F
13 Full water capacity, gal.	17,368	14 Dome capacity or outage, gal.	PER 173.24b(a) 90 TONS MAX
15 Material type & grade - heads	AAR TC-128B NORM.	16 Material type & grade - shell	AAR TC-128B NORM.
17 Material thickness - heads, in.	13/16	18 Material thickness - shell, in.	0.7874
19 Lining type	NONE	20 Inside diameter - center, in.	102
21 Inside diameter - end rings, in.	102	22 Head radius, main, in. (if not 2:1)	2:1 ELLIPSOIDAL
23 Test pressure, psi	500	24 Insulation type	2" GLASSWOOL+2" CERAMIC FIBER
25 Insulation thickness, in.	4	26 Thermal conductivity, Btu-in/hr-ft²-°F	0.25
27 Type and number of safety relief devices	1 VALVE	28 Safety device start-to-discharge, psi	375
29 Safety device flow capy., cfm reqd.	274	30 Safety device flow capacity, cfm, actual	2930
31 Tank surface area, sq. ft.	1196	32 Underframe or stub sill type	STUB SILL -- TRN 021
33 Center of gravity, loaded, in.	82.13	34 Est. light weight, lb.	80,100
35 AAR clearance diagram	B	36 Rail load limit, lb.	263,000
37 Truck capacity, tons	100	38 Head shields	SEE NOTE, PAGE 2

NOTES:

Orig. Cert.

Builder

Date

Former lading

The Following Drawings Apply		The following prior approvals apply:	
Drawing Number		Drawing Number	Application/Certificate No.
39 General Arrangement	D-41011	D-41009C	L976015
40 Arrangement, Tank	D-43038 SH. 1		L976015
41 Reinforced Openings	D-43038 SH. 2 & 3		L976015
42 Bolster & Draft Sill Arrgt.	D-340492 SH. 1 & 2		L976015
43 Fittings Arrangement	D-44811 SH. 1A & 2	D-44808 SH. 1 & 2	L976015
44 Manway Assembly	D-240059D		L976015
45 Protective Housing	D-143508C	D-143541A	L976015
46 Venting, Loading and Discharge Valves	1" ANGLE, ACF 4-F-8650		E901033A
47 Safety Relief Devices CROSBY 1-1/2	JQ375, H-51970F		SRD 909040
48 Heater Systems (Int. ☐ Ext. ☐)	NONE		
49 Gaging Device	NONE		
50 Bottom Outlet Valve	NONE		
51 Jacket Anchor	D-46225A		A946061
52 Manway cover	D-243657B		L976015
53 Calculations	D-443963		L976015

REVISIONS:

APPLICATION BY: WILLIAM R. BITTING

I certify that the foregoing conforms to all applicable DOT and AAR requirements including Specifications, Regulations, Rules of Interchange, and the DOT Railroad Safety Appliance Standards.

SIGNATURE

TITLE DESIGN ENGINEER - RAILCAR DIVISION

APPROVAL - AAR Tank Car Committee

JUN 03 1997

Date Approved

Secretary

Signature on behalf of Tank Car Committee

CERTIFICATION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others as required by 49 CFR Part 179.5 before these cars are placed in service.

Initials and Car Numbers:

SBLX 14000-14204

Form AAR 4-2 Revised 10/12/95

Name

Date 9-16-97

Title

Director Quality Assurance
Tank Car

000003

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

GENERAL ARRANGEMENT - D-41011

DRAWING D-41011 IS THE SAME AS D-41009C EXCEPT THAT THE MANWAY BONNET HINGE WAS ROTATED 45° TO BE ON LONGITUDINAL CENTERLINE OF CAR.

FITTINGS ARRANGEMENT - D-44811 SH. 1A & 2

DRAWING D-44811 SH. 1A & 2 IS THE SAME AS D-44808 SH. 1 & 2 EXCEPT THE MANWAY BONNET HINGE IS SHOWN ON LONGITUDINAL CENTERLINE OF CAR.

PROTECTIVE HOUSING - D-143508C

DRAWING D-143508C IS THE SAME AS D-143541A EXCEPT HINGE IS ON LONGITUDINAL CENTERLINE.

NOTE:

THE REQUIREMENT FOR TANK HEAD PUNCTURE RESISTANCE FOR SPECIFICATION DOT 105J500W IS SATISFIED BY THE COMBINATION OF A TANK HEAD THICKNESS OF 13/16" PLUS 4" THICKNESS OF CERAMIC FIBER AND GLASSWOOL BLANKET PLUS A CARBON STEEL JACKET HEAD OF 0.1196" THICKNESS. THE PREAMBLE TO DOCKET HM-175A PRINTED IN THE FEDERAL REGISTER DATED SEPTEMBER 21, 1995; SUPPLEMENTARY INFORMATION, PARA. II, C - "HEAD PROTECTION", STATES THAT THE PERFORMANCE STANDARD REQUIRED BY APPENDIX A TO PART 179 IS MET BY THE COMBINATION OF TANK HEAD AND JACKET HEAD THICKNESS DESCRIBED ABOVE.

APPLICATION BY William R. Bitting

I certify that the foregoing conforms to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards.

SIGNATURE

TITLE Design Engineer - Railcar Division

APPROVAL AAR Tank Car Committee

Date Approval

JUN 03 1997[Signature], Secretary
(Signature) on behalf of Tank Car Committee

**Association of American Railroads
Manual of Standards and Recommended Practices
Specifications for Tank Cars**

**EXHIBIT D-1
CERTIFICATE OF TEST FORM**

1. Reporting Marks and Car Number	5BLX 14146	
2. Tank Specification	105 J 500 W	
3. Stenciled Specification	DOT 105 J 500 W	
4. Tank Capacity in Gallons (liters) or pounds (kgs) of water		
5. Tank Test Pressure, psi (kPa)*		
6. Interior Heater System Test Pressure, psi (kPa)*		
7. Safety Valve	No. 1	No. 2
a. Name and Location of Company Performing Test of Safety Valve	DLIN MCINTOSH ALA.	
b. Name and Location of Company Applying Safety Valve	FITZGERALD RAILCAR SERVICES, INC. Fitzgerald, Georgia 31750	
c. Manufacturer and Model/Type Number	Crosby JQ 375	
d. Serial Number	20560M	
e. Start-to-Discharge Pressure, psi (kPa)**	360 PSI	
f. Vapor-Tight Pressure, psi (kPa)**	300 PSI	
g. Valve Seals Replaced (Y/N) (only those exposed to product)	N/A	
h. New Seal Material	Metallic	
8. Combination Device		
a. Breaking Pin Lower Diaphragm Tight at psi (kPa)		
b. Frangible Disc Pressure, psi (kPa)		
9. Vents		
a. Number of Vents		
b. Frangible Disc Pressure, psi (kPa)		
10. Excess Flow Valve Seal Tightness Checked (Y/N)		
11. Test Date (Dated Stenciled on Car)	2004	
12. Tank Built/Conversion Date		
13. Test Due Stencil		
a. Tank (Date Stenciled on Car)		
b. Safety Valve (Date Stenciled on Car)	2014	
c. Interior Heater System (Date Stenciled on Car)		
14. Name and Location of Company Performing Tank and/or Heater System Test	FITZGERALD RAILCAR SERVICES, INC. Fitzgerald, Georgia 31750	

*Tested with hydrostatic pressure shown, for the required time period, without leaks or evidence of distress.

** Valve has been set to start-to-discharge and is vapor-tight at pressure shown. For combination devices, the start-to-discharge and vapor-tight pressures of the valve portion is shown.

I HEREBY CERTIFY THAT TESTS PERFORMED TO TANK CAR TANKS, SAFETY VALVES AND/OR HEATER SYSTEMS WERE DONE IN ACCORD WITH THE DEPARTMENT OF TRANSPORTATION REGULATIONS AND THE AAR SPECIFICATIONS FOR TANK CARS AND REPORTED CORRECTLY.

DATE 2-15-04 (SIGNED) See Attached Sheet

OWNER

TESTER

9/15/95

D-33

1/1/96

Pioneer 7440

000005

Olin CORPORATION
CHLOR ALKALI DIVISION

CERTIFICATE OF THERMAL LEAK TEST

OLIN PLANT: MC-I DATE: 2-15-04 TIME: 5:30am/3:30pm

EQUIPMENT TESTED:

☒ PRESSURE RELIEF VALVE ☐ ANGLE VALVE ☐ OTHER _____

BRAND: Crosby Relief Valve MODEL: 1 1/2" JQ

SERIAL OR LOT NUMBER: 20560 m

EQUIPMENT INSTALLED ON:

☐ BARGE ☒ TANK CAR ☐ OTHER _____

EQUIPMENT NUMBER: SBLX 14146

LEVEL II OPERATOR'S NAME: (PRINT) William Adams, Jr.

TEST PRESSURE: 300-600 psig TEST TEMPERATURE: 68°

HELIUM CONCENTRATION (%) 100%

LEAK DETECTOR: MFG EPD MODEL 3000IS S/N 100553

PRESSURE GAGE: MFG Ashcroft MODEL _____ RANGE 0-600 psig S/N TGSRV-1

PRESSURE GAGE: MFG 3D Inst. MODEL _____ RANGE 0-600 psig S/N 632541

THERMOMETER: MFG Lab Safety MODEL Raytek Infrared S/N 2058540101-0005

RANGE -25-750°F HUMIDITY 10-90% EMISSIVITY 0.95

ANY INDICATIONS OF LEAKS? YES NO

COMMENTS OR DESCRIBE LOCATION OF LEAK AND ACTION TAKEN: _____

LEAK TEST PERFORMED BY: (SIGNATURE) [Signature]

VALVE TYPE

☐ 1½ JQ 225

☒ 1½ JQ 375

☐ 4 JQ 300

☐ Other

VALVE NUMBER	REMOVED FROM		APPLIED TO	
	CAR NUMBER	DATE	CAR NUMBER	DATE
20560m	n/a	n/a	SBLX14146	2-19-04

VISUAL EXAMINATION	SEAL	☒ OK	☐ BROKEN OR DAMAGED
	UPPER DIAGHRAGM	☒ OK	☐ BROKEN OR DAMAGED
	LOWER DIAPHRAGM	☒ OK	☐ BROKEN OR DAMAGED
	OTHER EVIDENCE OF LEAKAGE	☒ NO	☐ YES

TEST AND EXAMINATION	VALVE PROPER		
	CLEANED AND STEAMED	☐ NO	☒ YES
	VALVE POPPED AT	360	PSI GAS TIGHT AT 300 PSI
	DISC INSERT LAPPED	☒ NO	☐ YES
	DISC INSERT REPLACED	☒ NO	☐ YES
	NOZZLE MACHINED OR REPLACED	☒ NO	☐ YES
	BREAKING PIN ASSEMBLY		
	BREAKING PIN BROKE AT	375	PSI
	CLEANED AND STEAMED	☐ NO	☒ YES
	LOWER DIAPHRAGM GAS TIGHT AT	300	PSI

ALTERATIONS

☒ NO☐ YES

(If Yes, Describe Under Remarks)

REMARKS

Cleaned + Reset

I/We Certify That The Above Report Is Correct

TESTER'S SIGNATURE

CAR OR TANK NO. SBLX14146

PROPERLY STENCILED ON Lid

BY

have reviewed the above report and find it correct.

Authorization is hereby granted to load and ship this unit.

FOREMAN'S SIGNATURE

Visual Inspection Report

RQP-RF-A

Car Reporting Marks & No.: SBLX 14146 DOT Class: 105J500W

Name and Address of Company Performing Inspection: FRCS, 222 Rip Wiley Rd., Ft.

Procedure Reference No RQP-04-01

Place a check mark to all the applicable items for each individual car type.

Visual/Safety Systems Inspection

Stencil Legibility	☒	Insp. Ok	☐	Repair	☐	Renewed
Coupler Vertical Restraint Sys.	☒	Insp. Ok	☐	Repair	☐	Renewed
Tank Head Shield - B-End	☒	Insp. Ok	☐	Repair	☐	Renewed
Tank Head Shield - A-End	☒	Insp. Ok	☐	Repair	☐	Renewed
Tank Bolts	☒	Insp. Ok	☐	Repair	☐	Renewed
Tank Anchor	☒	Insp. Ok	☐	Repair	☐	Renewed
Protective Housing	☒	Insp. Ok	☐	Repair	☐	Renewed
Skid	☒	Insp. Ok	☐	Repair	☐	Renewed

Inspectors Signature: Charlie S.

Initials: CE Level: II Date: 02-20-04

Bottom Outlet Valve	☒	Insp.	☐	Ok	☐	Repair
Bottom Outlet Cap/Flange	☒	Insp.	☐	Ok	☐	Repair
Bottom Outlet Plug	☒	Insp.	☐	Ok	☐	Repair
Bottom Outlet Cap Gauged	☒	Insp.	☐	Ok	☐	Repair
Manway Cover	☒	Insp. Ok	☐	Repair	☐	Renewed
Manway Cover Gasket Groove	☒	Insp.	☐	Ok	☐	Repair
Manway Nozzle Gasket Seal	☒	Insp.	☐	Ok	☐	Repair
Manway Cover Eyebolts	☒	Insp. Ok	☐	Repair	☐	Renewed
Outage Gauge Bar	☒	Insp. Ok	☐	Repair	☐	Renewed
Safety Valve	☒	Insp. Ok	☐	Repair	☐	Renewed
Safety Vent	☒	Insp. Ok	☐	Repair	☐	Renewed
Air Inlet Valve Fitting	☒	Insp. Ok	☐	Repair	☐	Renewed
Education Pipe	☒	Insp. Ok	☐	Repair	☐	Renewed
Education Pipe Fitting	☒	Insp. Ok	☐	Repair	☐	Renewed
Sump	☒	Insp. Ok	☐	Repair	☐	Renewed
Securement Chains/Cables	☒	Insp. Ok	☐	Repair	☐	Renewed

Inspectors Signature: Charlie S.

Initials: CE Level: II Date: 02-20-04

Rule 88 B-2

Body Bol. & Ctr Plate	☒	Insp. OK	☐	Repaired	☐	Renewed
Side Bearing & Adj.	☒	Insp. OK	☐	Repaired	☐	Renewed
Sill Inspection	☒	Insp. OK	☐	Repaired	☐	Renewed
Coupler Components	☒	Insp. OK	☐	Repaired	☐	Renewed
Draft Gears	☒	Insp. OK	☐	Repaired	☐	Renewed
Yokes	☒	Insp. OK	☐	Repaired	☐	Renewed
Truck Bolsters	☒	Insp. OK	☐	Repaired	☐	Renewed
Truck Side Frame	☒	Insp. OK	☐	Repaired	☐	Renewed
Friction Wedges	☒	Insp. OK	☐	Repaired	☐	Renewed
Springs	☒	Insp. OK	☐	Repaired	☐	Renewed
Roller Bearings	☒	Insp. OK	☐	Repaired	☐	Renewed
Wheel Sets & Axles	☒	Insp. OK	☐	Repaired	☐	Renewed
Side & End Sills	☒	Insp. OK	☐	Repaired	☐	Renewed
Safety Appliances	☒	Insp. OK	☐	Repaired	☐	Renewed

Inspectors Signature: Charlie S.

Initials: CE Level: II Date: 2-20-04

Comments:

No Comments

000008

1. Car Reporting Mark and Number SBLX 14146

2. Inspection Performed by (Company) Fitzgerald Railcar Serv

3. Stencil Class DOT 105 J 500W

4. Shop Loc. (Town) Fitzgerald State or Province GA.

5. Built Date Mo 7 Yr 97

6. Date of Inspection Mo 02 Day 10 Yr 04

7. Car Jacketed? ☒ (Y) YES

8. Reserved (design specific) _____

9. Reserved (design specific) _____

10. Original AAR Certificate of Construction Number _____

11. Builder

12. Stub Sill Design Style (as inspected)

13. Total Mileage to Nearest 1,000 Miles
(actual cumulative mileage required)

Note: Lines 10 - 13 Provided By Car Owner

Transverse Weld Cracks (if more than one, record longest)

Enter max crack length to nearest 1/4 inch. (0, .25, .5, .75)

Enter 0 if no crack.

Enter N/A if item not applicable

	A-END			B-END		
	Inspection Technique	Number of Cracks	Maximum Length	Inspection Technique	Number of Cracks	Maximum Length
14. A-1 Pad to Tank	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
15. B-1 Pad to Sill (if no head brace)	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
16. C-1 Head Brace to Sill	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
17. D-1 Head Brace to Pad	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
18. E-1 Other - Car Builder Specified	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>

Longitudinal Weld Cracks (if more than one, record longest)

Enter max crack length to nearest 1/4 inch. (0, .25, .5, .75)

Enter 0 if no crack.

Enter N/A if item not applicable

	A-END			B-END		
	Inspection Technique	Number of Cracks	Maximum Length	Inspection Technique	Number of Cracks	Maximum Length
19. A-2 Pad to Tank	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
20. B-2 Pad to Sill	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
21. C-2 Head Brace to Sill	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
22. D-2 Head Brace to Pad	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
23. E-2 Other - Car Builder Specified	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>

Parent Metal Cracks (if more than one, record longest)

Enter max crack length to nearest 1/4 inch. (0, .25, .5, .75)

Enter 0 if no crack.

Enter N/A if item not applicable

	A-END			B-END		
	Inspection Technique	Number of Cracks	Maximum Length	Inspection Technique	Number of Cracks	Maximum Length
24. Tank	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
25. Pad	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
26. Sill Webs	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
27. Sill Top Flange	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
28. Sill Bottom Flange	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
29. Head Brace	<u>PT</u>	<u>0</u>	<u>0</u>	<u>PT</u>	<u>0</u>	<u>0</u>
30. Other - Design Specific	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>

31. Inspector's Name:

32. Car Owner's Representative:



CORPORATION
CHLOR ALKALI DIVISION

Leak Test Report

RQP-RF-B

Car Reporting Marks & No.: 5BLX14146 DOT Class: 105J500W
Name and Address of Company Performing Inspection: FRCS, 222 Rip Wiley Rd. Fitzgerald
Procedure Reference No. RQP-04-04

Pressure Testing	Test	Result
Pressure Plate Gasket Groove	☒ Pass ☐ Fail	☐ Pass ☐ Fail
Safety Valve (*May Require Testing)	☒ Pass ☐ Fail	☐ Pass ☐ Fail
Liquid Valve - "B end"	☒ Pass ☐ Fail	☐ Pass ☐ Fail
Liquid Valve - "A end"	☒ Pass ☐ Fail	☐ Pass ☐ Fail
Vapor Valve - "B end"	☒ Pass ☐ Fail	☐ Pass ☐ Fail
Vapor Valve - "A end"	☒ Pass ☐ Fail	☐ Pass ☐ Fail
Signature: <u>[Signature]</u>	Level Certified: <u>II</u>	Date: <u>02-20-04</u>

Safety Valve Bench Test	
Manufacturer: <u>Crosby</u>	Gas or Medium Concentration: _____
Valve Serial Number: <u>JQ375</u>	Test Pressure: _____
Series Number: <u>20560m</u>	Start to Discharge: _____
Seat Material: _____	Vapor Tight: _____
Test Procedure: _____	Gages: ID No: _____
Surface Temperature: _____	Manufacturer: _____
Temperature Measuring Device: _____	Model: _____
Identification Number: _____	Range: _____
Test Device: _____	Test Method Performed: _____
Signature: _____	Level Certified: _____ Date: _____

000010

Thickness Measurement Conversion Chart

1/16"	0.063
1/8"	0.125
3/16"	0.188
1/4"	0.250
5/16"	0.313
3/8"	0.375
7/16"	0.438
1/2"	0.500
9/16"	0.563
5/8"	0.625
11/16"	0.688
3/4"	0.750
13/16"	0.813
7/8"	0.875
15/16"	0.938
1"	1.000



CORPORATION
CHLOR ALKALI DIVISION

Thickness Testing Calibration Report

RQP-RF-C-01

Car Reporting Marks & Number: SBLX 14146

Test Procedure: RQP-04-05

Type of Equipment: DM4DL

Technique: UTT (Thickness Testing) UT (Angle Beam Testing)

Probe Type: UTT-STRAIGHT Beam (00HMB2) UT-ANGLE beam (00N351)

Frequency: ☒ 2.25 MHz ☒ 5 MHz

Calibration Block Identification: F2-75, G-147, F2-9 Calibration Date: 10-23-03

Calibration Block Temperature: 43° Due Date: 10-23-04

Range of Thickness:

.250 .500 .750 1.000

Instrument Calibration Block Check Before:

.250	.500	.750	1.000
------	------	------	-------

Instrument Calibration Block Check After:

.250	.500	.750	1.000
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Couplant Type(s): Sonotek - UTX

Date Instrument Calibrated: 02-10-04 Time: 9:30 am

Calibrated by: Chad E

0000012

Car Reporting Marks & No.: SBLX 14146 DOT Class: 105J500W

Date Inspected: 02-10-04 Time Inspected: 9:30 am Tank & Head Mat'l: _____

Company Performing Inspection: FRCS Metal Temperature: 42°

Base Line Sonics			Base Line Sonics		
No.	Sonic Readings Description	Sonic Reading	No.	Sonic Reading Description	Sonic Reading
1	B End Head Ring 06 O'clock	879	33	4 th Ring A 06 O'clock	804
2	B End Head Ring 09 O'clock	854	34	4 th Ring A 09 O'clock	803
3	B End Head Ring 12 O'clock	877	35	4 th Ring A 12 O'clock	804
4	B End Head Ring 03 O'clock	866	36	4 th Ring A 03 O'clock	804
5	1 st Ring B 06 O'clock	809	37	5 th Ring B 06 O'clock	
6	1 st Ring B 09 O'clock	806	38	5 th Ring B 09 O'clock	
7	1 st Ring B 12 O'clock	802	39	5 th Ring B 12 O'clock	
8	1 st Ring B 03 O'clock	803	40	5 th Ring B 03 O'clock	
9	1 st Ring A 06 O'clock	812	41	5 th Ring A 06 O'clock	
10	1 st Ring A 09 O'clock	811	42	5 th Ring A 09 O'clock	
11	1 st Ring A 12 O'clock	803	43	5 th Ring A 12 O'clock	
12	1 st Ring A 03 O'clock	804	44	5 th Ring A 03 O'clock	
13	2 nd Ring B 06 O'clock	804	45	A End Head Ring 06 O'clock	898
14	2 nd Ring B 09 O'clock	806	46	A End Head Ring 09 O'clock	873
15	2 nd Ring B 12 O'clock	807	47	A End Head Ring 12 O'clock	870
16	2 nd Ring B 03 O'clock	810	48	A End Head Ring 03 O'clock	856
17	2 nd Ring A 06 O'clock	804	49	B End Head Center	860
18	2 nd Ring A 09 O'clock	802	50	A End Head Center	846
19	2 nd Ring A 12 O'clock	805	51	Bottom Outlet A End	
20	2 nd Ring A 03 O'clock	806	52	Bottom Outlet B End	
21	3 rd Ring B 06 O'clock	805	53	Dome A End	3.951
22	3 rd Ring B 09 O'clock	805	54	Dome B End	3.881
23	3 rd Ring B 12 O'clock	803	55	Manway A End	
24	3 rd Ring B 03 O'clock	801	56	Manway B End	
25	3 rd Ring A 06 O'clock	812	57	Top Unloading A End	
26	3 rd Ring A 09 O'clock	811	58	Top Unloading B End	
27	3 rd Ring A 12 O'clock	801	59	Sump A End	
28	3 rd Ring A 03 O'clock	802	60	Sump B End	
29	4 th Ring B 06 O'clock	807	61	Washout A End	
30	4 th Ring B 09 O'clock	802	62		
31	4 th Ring B 12 O'clock	812	63		
32	4 th Ring B 03 O'clock	811	64		

Comments: NO Comments

Signature: [Signature]

Level Certified: II

Date: 02-10-04



CORPORATION
CHLOR ALKALI DIVISION

HM-201 Data Form

RQP-RF-E

Car Reporting Marks & Number: SBLX 14146 Date: 02-20-04

Name and Address of Reporting Company: 222 Rip Wiley Rd. Fitzgerald GA. 31750
(FRCS)

		Station Stencil	Qualified	Due
Tank Qualification		FRCS	2004	2014
Thickness Test		FRCS	2004	2014
Service Equipment		FRCS	2004	2014
PRD: Valve	375 psi	FRCS	2004	2014
Coating/Lining				
Type				
Date Applied				
88.B.2 Inspection		FRCS	2004	2014
Stub Sill Inspection		FRCS	2004	2014

000014



CHLOR ALKALI DIVISION

Insulation Inspection Report

RQP-RF-F

Car Reporting Marks & Number:

SBLX 14146

DOT Class:

105 J500W

Inspection Performed By (Company):

FRCS

Shop Location (Town):

Fitzgerald

Type of Insulation:

☐

Fiberglass

☐

Foam

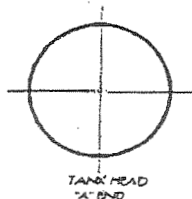
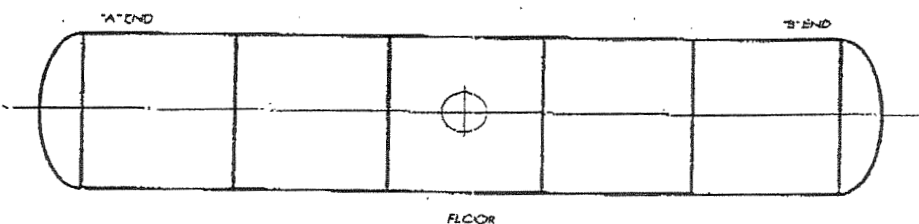
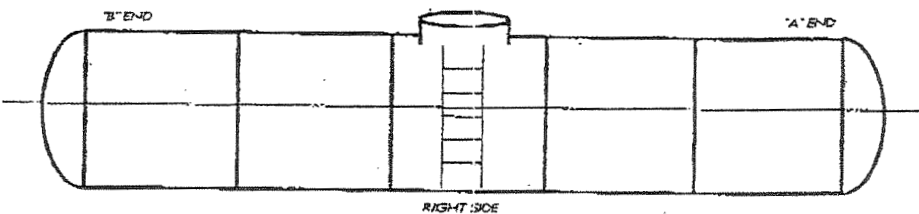
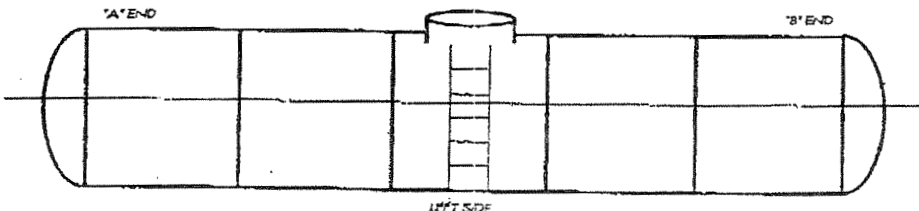
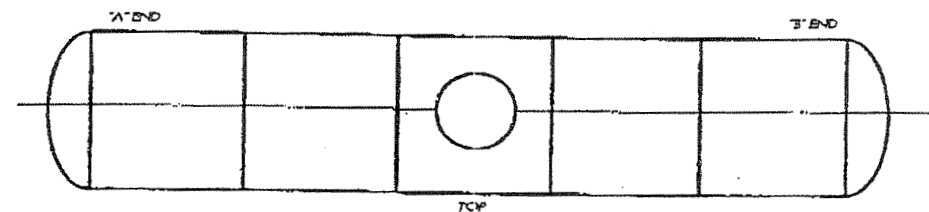
☒

Ceramic Fiber

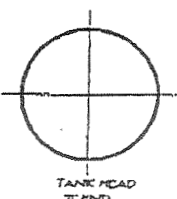
Comments:

Insulation Insp.

OK



TANK HEAD
A' END



TANK HEAD
B' END

Inspector Initials:

CE

Inspector Signature:

Charles E. Smith

Date:

02-10-04

Original Date: 12/04/01

000015

[illegible]

Appendix A
Part 2
Hazardous Materials Group Factual
GATX 17105

Graniteville, SC
DCA-05-MR-008

000017

GATX 17105

BO 10388

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

AAR APPLICATION NO. F-783111

APPROVAL REQUESTED OF: ☒ PRECEDENT☐ AAR TANK CAR COMMITTEE BALLOT

APPLICANT'S NO. 50 9039

DATE 6/9/78

APPLICANT: GENERAL AMERICAN TRANSPORTATION CORPORATION

APPLICATION FOR APPROVAL OF: ☒ CONSTRUCTION ☐ CONVERSION ☐ ALTERATIONS ☐ WELDED REPAIRS

Car numbers and initials will be sent later. NUMBER OF CARS Fifteen (15)

1. TANK SPECIFICATION	DOT 105A500W	12. TYPE	Safety Valve
2. TANK RAIL SPECIFICATION	DOT 105A500W	13. FLOW CAPACITY, CFM (AIR) ACTUAL	2,930
3. LIQUIDITY	Chlorine	14. FLOW CAPACITY, CFM (AIR) REQUIRED	152
4. INITIAL CUMULATIVE WT. PER CAR, LBS.	12,17# @ 60° F	15. TANK SURFACE AREA, SQ. FT.	1,186
5. TANK WEIGHT, LBS.	17,368 (90 Ton)	16. BOLSTER SLABBING AREA, SQ. FT.	N/A
6. TANK CAPACITY OR OUTAGE, GAL	None	17. ESTIMATED LIGHT WT., LBS.	82,000
7. MATERIAL & THICKNESS	AAR IC-128, Gr. B	18. CENTER OF GRAVITY LOADED, IN.	83.2
8. TANKING	None	19. RAIL LOAD LIMIT, LBS.	263,000
9. HEAD RADIUS, MAIN, IN.	2:1 Ellips.	20. TRUCK CAPACITY, TONS	100
10. TEST PRESSURE, PSI	500	21.	B
11. INSULATION, IN.	Urethane Foam	22. AAR CLEARANCE DIAGRAM PL.	
12. INSULATION CONDUCTIVITY, BTU/HR/SQ. FT./IN.	.150		

NOTES

NOTE: Cars are to be stenciled "CHLORINE" in 4" letters per HM-112

THE FOLLOWING DRAWINGS APPLY	DRAWING NUMBER	PRECEDENT	
		DRAWING NUMBER	APPLICATION NUMBER
1. GENERAL ARRANGEMENT	1058-2174	1058-2003-A	A-773034-B
2. ARRANGEMENT, TANK	1044-42-A-D	1044-42-4-B	A-773034-B
3. DIMENSIONED OPENINGS, INCLUDING CALCULATIONS	1044-42-A-D	1044-42-4-B	A-773034-B
4. DIMENSIONS, INCLUDING CALCULATIONS	0-1210-339	--	A-743338-A
5. LIFTING, ARRANGEMENT	1049-802-B	1049-802	A-773034-B
6. MANUAL EXHAUST/COVER	339-665-C	--	A-753014-A
7. LIFTING, HOLDING	1194-46-A	--	A-773034-B
8. LIFTING, LUNGING AND DISCHARGE VALVES	4 - 1" Angle Valves	--	A-753014-A
9. LIFTING, LUNGING	1 - 375# Crosby H-51970	--	A-753014-A
10. LIFTING, LUNGING	None	--	
11. LIFTING, LUNGING	None	--	
12. LIFTING, LUNGING	None	--	
13. LIFTING, LUNGING	2 - Excess Flow Valves	--	A-753014-A
14. LIFTING, LUNGING	275-97	--	

REVISIONS

I certify that the foregoing conforms to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards.

SIGNATURE

[Signature]

CHIEF ENGINEER

TITLE

1978

APPLICATION BY GENERAL AMERICAN TRANSPORTATION CORP.

APPROVAL AAR Tank Car Committee Date Approved

Signature on behalf of Tank Car Committee

CERTIFICATION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others required by 49 CFR Part 179.5 before these cars are placed in service.

Initials and Car Numbers:

GATX 10149 - BO 10388
 GATX 16339 to 16342 - BO 10376
 GATX 17101 to 17110 - BO 10452

Date

7-13-78

By

[Signature]

Title

Chief Engineer

Page 1 of 2

000018

SUMMARY OF DEVIATIONS

<u>LINE NO.</u>	<u>DESCRIPTION</u>
23	A. Changed couplers to type AAR #SE-60-CHTE and yokes to Y-40-CHTE. B. Changed overall dimensions and curve negotiability accordingly.
24,25	A. Increased shell plate thickness to .7874". B. Changed manway nozzle thickness and weld size.
27	A. Decreased stud length. B. Changed weld pad material.

JUL 7 1978

~~BY C. G. FINE~~

Association of American Railroads - Manual of Standards and Recommended Practices
Specification for Tank Cars

Revised 9/21/99 by Olin Corp. DAL

EXHIBIT D-1 CERTIFICATE OF TEST FORM

1. Reporting marks and car number	CHLORINE (CL2) 1017
2. Tank specification	GATE-17105 105J500W
3. Stenciled specification	105J500W
4. Car qualified per 49CFR 180.509?	Yes ☐ No ☒
5. Car qualified per Exemption DOT E-11941 (Apply to car above product name)	☒ Yes ☐ No
6. Tank capacity in gallons (liters) or pounds (kgs) of water	
7. Tank test pressure, psi (kPa)*	GALS-17312 / 500 lbs. 30 min. N/A
8. Interior heater system test pressure, psi (kPa)*	N/A
9. Safety Valve	
a. Name and location of company performing test of safety valve	Olin Corp. McIntosh, AL
b. Name and location of company applying safety valve	Olin Corp. McIntosh, AL
c. Manufacturing and Model/Type number	Crosby 1-1/2 IQ 375psi
d. Serial Number	
e. Start-to-Discharge Pressure, psi (kPa)**	4696 360 psig +/- 10.8
f. Vapor-Tight Pressure, psi (kPa)**	300 psig min.
g. Valve seals replaced (Y/N)(only those exposed to product)	N/A
h. New seal material	N/A
10. Combination Device	YES
a. Breaking pin lower diaphragm tight at psi (kPa)	375 +/- 15 psig
b. Frangible disc pressure, psi (kPa)	375 +/- 15 psig
11. Vents	N/A
12. Excess flow valve seat tightness checked	☒ Yes ☐ No
13. Tank built/conversion date	08/79
14. Test stencil (date last hydrostatically tested)	01-2001
15. Test due stencil	07/08 N/A
a. Qualification and Service Equipment Due (cars qualified by 49CFR 180.509)	
b. Safety valve change/tank wash/visual insp. due (stencil under dome cover)	01-2003
c. Interior heater system (date stenciled on car)	N/A
16. Name and location of company performing tank and/or heater system test	Olin Corp - McIntosh, AL
17. For cars with Exemption DOT E-11941	
a. Safety systems inspection	☒ Pass ☐ Fail N/A
b. Tank Shell Thickness Test	GATE 17105 102L 1-6-00 ☒ Pass ☐ Fail N/A
c. Visual Inspection	102L ☒ Pass ☐ Fail N/A

*Tested with hydrostatic pressure shown, for the required time period, without leaks or evidence of distress.

**Valve has been set to start-to-discharge and is vapor-tight at pressure shown. For combination devices, the start-to-discharge and vapor-tight pressures of the valve portion is shown.

I HEREBY CERTIFY THAT TESTS PERFORMED TO TANK CAR TANKS, SAFETY VALVES AND/OR HEATER SYSTEMS WERE DONE IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION REGULATIONS AND THE AAR SPECIFICATIONS FOR TANK CARS AND REPORTED CORRECTLY. 000020

DATE 01/06/2000

SIGNED [Signature]

OWNER TESTER

CA:FORMS:AAR INSP

09/22/99

PAGE:01

TO:42333364819

334-944-3458

DEC-25 04 03:45 FROM:OLIN/SHIPPING

Olin Corporation
MCINTOSH, AL.

CHLORINE TANK CAR FIELD INSPECTION REPORT

000021

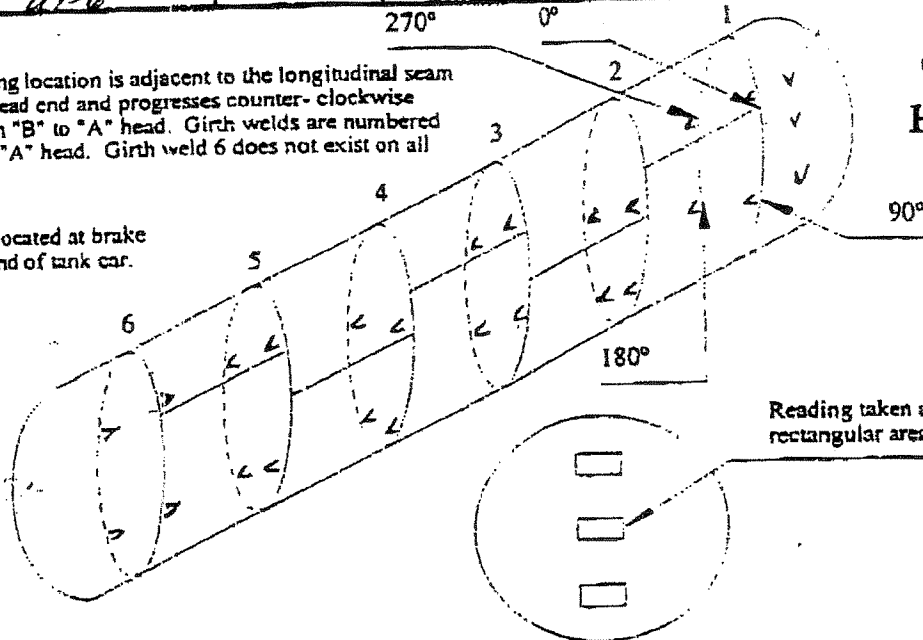
Rail Car Tank No: GATX17105 Location: MCINTOSH AL Date: 1-6-00
Procedure No: US-6 Revision: C Technician: DAMON LOKEY

The 0° reading location is adjacent to the longitudinal seam on the "B" head end and progresses counter-clockwise looking from "B" to "A" head. Girth welds are numbered from "B" to "A" head. Girth weld 6 does not exist on all tank cars.

"B" Head is located at brake handwheel end of tank car.

"A" Head

"B" Head



SHELL LOCATION	DEGREE INTERVALS			
	0°	90°	180°	270°
1	.832	.812	.822	.825
2	.779	.803	.801	.779
3	.796	.820	.789	.806
4	.801	.790	.802	.800
5	.806	.786	.788	.801
6				

TYPICAL LAYOUT FOR
HEAD THICKNESS READINGS

	HEAD "A"	TOP MID BOT	HEAD "B"	RANDOM READINGS			
			.840				
			.830				
			.835				

Velocity: .239 m/s Cal. Block: SN 97-6707

Tech. Signature: [Signature]

VISUAL INSPECTION

- A ☒ ☐ R ☐ Inspect internal surfaces of shell and heads inspected for cracks, corrosion, pitting, damage, etc.
- B ☒ ☐ Inspect internal surfaces of manway and dome inspected for corrosion, pitting, or damage.
- C ☒ ☐ Inspect all internal welds for cracks, corrosion, fusion defects, and underfill.
- D ☒ ☐ Inspect dip legs for cracks, holes, and thinning due to external corrosion.
- E ☒ ☐ Inspect bolting material for dome and pressure retaining connections for corrosion or damage.
- F ☒ ☐ Inspect protective housing around dome for secure attachment.
- G ☒ ☐ Verify proper DOT markings on external surface of tank car.

Additional
Comments

ALL THICKNESS MEASUREMENTS BELOW .776 VERIFIED BY RETEST

Tech. Signature: (A) (C) [Signature]

OLIN (B, D, E, F, G) T. HUFF / J. DOUGGETT

000022

CHLORINE SAFETY VALVE TEST

CD 977

TEST DATE

1-6-2000

VALVE TYPE

☐ 1½ JQ 225☒ 1½ JQ 375☐ 4 JQ 300☐ Other _____

VALVE NUMBER

REMOVED FROM

APPLIED TO

CAR NUMBER

DATE

CAR NUMBER

DATE

4696

N/A

N/A

GATR-17105

01/06/2000

VISUAL
EXAMINATION

SEAL

☒ OK☐ BROKEN OR DAMAGED

UPPER DIAPHRAGM

☒ OK☐ BROKEN OR DAMAGED

LOWER DIAPHRAGM

☒ OK☐ BROKEN OR DAMAGED

OTHER EVIDENCE OF LEAKAGE

☒ NO☐ YES

VALVE PROPER

CLEANED AND STEAMED

☐ NO☒ YES

VALVE POPPED AT

360 PSI GAS TIGHT AT 300

PSI

DISC INSERT LAPPED

☒ NO☐ YES

DISC INSERT REPLACED

☒ NO☐ YES

NOZZLE MACHINED OR REPLACED

☒ NO☐ YES

BREAKING PIN ASSEMBLY

BREAKING PIN BROKE AT

375 PSI

CLEANED AND STEAMED

☐ NO☒ YES

LOWER DIAPHRAGM GAS TIGHT AT

300 PSI

ALTERATIONS

☒ NO☐ YES

(If Yes, Describe Under Remarks)

REMARKS

cleaned & reset

I/We Certify That The Above Report Is Correct

TESTER'S SIGNATURE

CAR OR TANK NO. GATR-17105 PROPERLY STENCILED ON 01/06/2000 BY [Signature]

I have reviewed the above report and find it correct.

Authorization is hereby granted to load and ship this unit.

FOREMAN'S SIGNATURE

Trainor Robert

From: Schoonover, William [REDACTED]
Sent: Thursday, September 08, 2005 3:01 PM
To: Trainor Robert
Subject: GATX 17105

All our paperwork shows that this car was constructed to a DOT 105A500W specification with .7874" thick shell and 13/16" heads (both of TC-128 Grade B) and equipped with 4" urethane foam and an .11 gauge jacket. The head protection requirements of 179.16 appears to have been met by the tank spec and pressure used rather than through head shields.

Hope this helps.

Bill

000023

Appendix A

Part 3

Hazardous Materials Group Factual

UTLX 900207

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

Page 1 of 1
Rev. "A"1 APPROVAL REQUESTED OF: ☐ PRECEDENT
☒ TANK CAR COMMITTEE2 TYPE: ☒ CONSTRUCTION ☐ WELDED REPAIRS
☐ ALTERATION ☐ OTHER
☐ CONVERSION3 AAR NO. A-937060
4 DATE: 08/18/93
5 APPLICANT'S NO. 6951A
7 TANK SPECIFICATION: DOT 105A500W
8 STENCILED SPEC.: DOT 105S500W
10 NUMBER OF CARS 356 APPLICANT: Union Tank Car Company
151st & Railroad Ave, East Chicago, IN 46312
9 REPORTING MARKS & CAR NUMBERS UTLX 900239 thru 900273

11	Initial commodity	Chlorine	12	Density, lb. per gallon	12.3
13	Full water capacity, gal.	17,300	14	Dome capacity or outage, gal.	*
15	Material type & grade - heads	TC-128-B Norm.	16	Material type & grade - shell	TC-128-B Norm.
17	Material thickness - heads, in.	53/64	18	Material thickness - shell, in.	0.777
19	Lining type	None	20	Inside diameter - center, in.	100-3/4
21	Inside diameter - end rings, in.	100-3/4	22	Head radius, main, in. (if not 2:1)	----
23	Test pressure, psi	500	24	Insulation type	2" Ceramic Fiber + 2" Fiberglass
25	Insulation thickness, in.	4	26	Thermal conductivity, Btu-in/hr-ft ² -F	0.26
27	Type and number of safety relief devices	Valve (1)	28	Safety device start-to-discharge, psi	375
29	Safety device flow cap., cfm reqd.	288	30	Safety device flow capacity, cfm, actual	2,930
31	Tank surface area, sq. ft.	1,210	32	Underframe type	Stub Sill
33	Center of gravity, loaded, in.	82.7	34	Est. light weight, lb.	81,110
35	AAR clearance diagram	B	36	Rail load limit, lb.	263,000
37	Truck capacity, tons	100	38	Head shields	Full, 1/2" Thick Jacket Heads

NOTES:

*173.314, 49 CFR

Orig. Cert.

Builder

Date

Former lading

The Following Drawings Apply:	Drawing Number	The following prior approvals apply:	
		Drawing Number	Application/Certificate No.
39 General Arrangement	92995		A-907043
40 Arrangement, Tank	96747B		Submitted
41 Reinforced Openings, Including Calculations	X7382		A-937056 Pend.
42 Anchorage, Including Calculations	N.A.		
43 Fittings Arrangement	96765		Submitted
44 Manway Accessibility Flange	26191A		Submitted
45 Protective Housing	76956F		Submitted
46 Venting, Loading and Discharge Valves	96766		Submitted
47 Safety Relief Devices Crosby	H-51970		A-877084
48 Heater Systems (Int./Ext.)	None		
49 Gaging Devices	None		
50 Bottom Outlet Valve	None		
51 Repairs			
52 Manway cover	None		
53 Calculations			

REVISIONS: "A" (01/07/94) Lines 29 and 30
figures were transposed.APPLICATION BY: Tony Warwick

I certify that the foregoing conforms to all applicable DOT and AAR requirements including Specifications, Regulations, Rules of Interchange, and the DOT Railroad Safety Appliance Standards.

SIGNATURE

TITLE

AAR & DOT Coordinator

Secretary

APPROVAL - AAR Tank Car Committee

FEB 22 1994

Date Approved

Signature on behalf of Tank Car Committee

CERTIFICATION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others as required by 49 CFR Part 179.5 before these cars are placed in service.

Initials and Car Numbers:

UTLX 900239 thru 900273

Form AAR 4-2 Revised 4-23-91

Name

Title

AAR & DOT Coordinator

03/01/94

000024

UNION TANK CAR COMPANY
Mechanical Records, 175 West Jackson Blvd., Chicago, IL 60604

Car Mark/Number: UTLX 900270

Tank Built Date: 12/01/1993

	Stencil/ Shop Nbr	Qualified Date	Due Year	Initials
Tank Requalification	S05	7/06/2004	2014	S05
Thickness Test	S05	7/06/2004	2014	S05
Service Equipment	131	7/28/2004	2014	DD
PRD: Valve PSI: 360	131	07/28/2004	2014	
Lining	N/A	N/A	N/A	N/A
Rule 88 B Inspection	S05	7/06/2004	2014	S05
Stub Sill Inspection	S05	7/06/2004	2014	S05
Lining Installed at:	on:			

I hereby certify that test performed to the tank car, safety valves, heater coil, coating/lining, rule 88 "B" and stub sill system were done in accordance with requirements of the Department of Transportation Regulations and the AAR Specifications for tank cars are reported correctly.

Date _____ (Signed) _____ Owner
Tester

** END OF REPORT **

000025

UNION TANK CAR COMPANY
Mechanical Records, 175 West Jackson Blvd., Chicago, IL 60604

Certificate of Test Form

1. Reporting marks and car number	UTLX 900270
2. Tank specification	DOT105J500W
3. Stenciled specification	
4. Tank capacity in gallons (liters)	17403
5. Tank test pressure, psi (kPa)a/	
6. Interior heater system test pressure, psi (kPa)a/	

***** Compartment Number: 1 of 1 *****

7. Pressure relief valve (PRV)	No. 1	No. 2
7a.1 Name & loc of company performing PRV test	131 OLIN	
7b.1 Name & location of company applying PRV.	131 OLIN	
7a.2 Name & loc of company performing PRV test		
7b.2 Name & location of company applying PRV.		
7c. MFG and model/type number/Valve-1..	VLV: CROSBY 375#, JQ, 1 1/2IN, #H50155	
7c. MFG and model/type number/Valve-2..		
7d. Serial number	12159 C	
7e. Start-to-discharge pressure, psi (kPa)b/	360.00	.00
7f. Vapor-tight pressure, psi (kPa)b/	300.00	.00
7g. Valve seals replaced (Y/N) (only those exposed) to prod.	Y	
7h. New seal material	NO O-RING, METAL	
8. Combination device		
8a. Rupture disc pressure, psi (kPa)	.00	
8b. Breaking pin lower diaphragm tight at psi (kPa)	0	
9. Rupture disc device		
9a. Number of rupture disc devices	0	
9b. Rupture disc pressure, psi (kPa)	.00	
10. Excess flow valve seat tightness checked (Y/N)	Y	
11. Test date (date stenciled on car)	7-28-2004	
12. Tank built/conversion date	12-01-1993 /	
13. Test due stencil		
13a. Tank (date stenciled on car)		
13b. Pressure relief valve (date stenciled on car)	7-28-2014	
13c. Interior heater system (date stenciled on car)		
14. Company performing tank and/or heater test.	131 OLIN ,	

- a/ Tested with hydrostatic pressure shown, for the required time period, without leaks or evidence of distress.
- b/ Valve has been set to start-to-discharge and is vapor-tight at pressure shown. For combination devices, the start-to-discharge and vapor-tight pressures of the valve portion is shown.

I HEREBY CERTIFY THAT TESTS PERFORMED TO TANK CAR TANKS, PRESSURE RELIEF VALVES AND/OR HEATER SYSTEMS WERE DONE IN ACCORD WITH THE DEPARTMENT OF TRANSPORTATION REGULATIONS AND THE AAR SPECIFICATIONS FOR TANK CARS AND REPORTED CORRECTLY.

Date

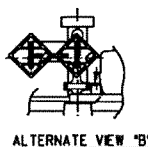
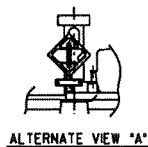
(Signed) Owner/Tester

** END OF REPORT **

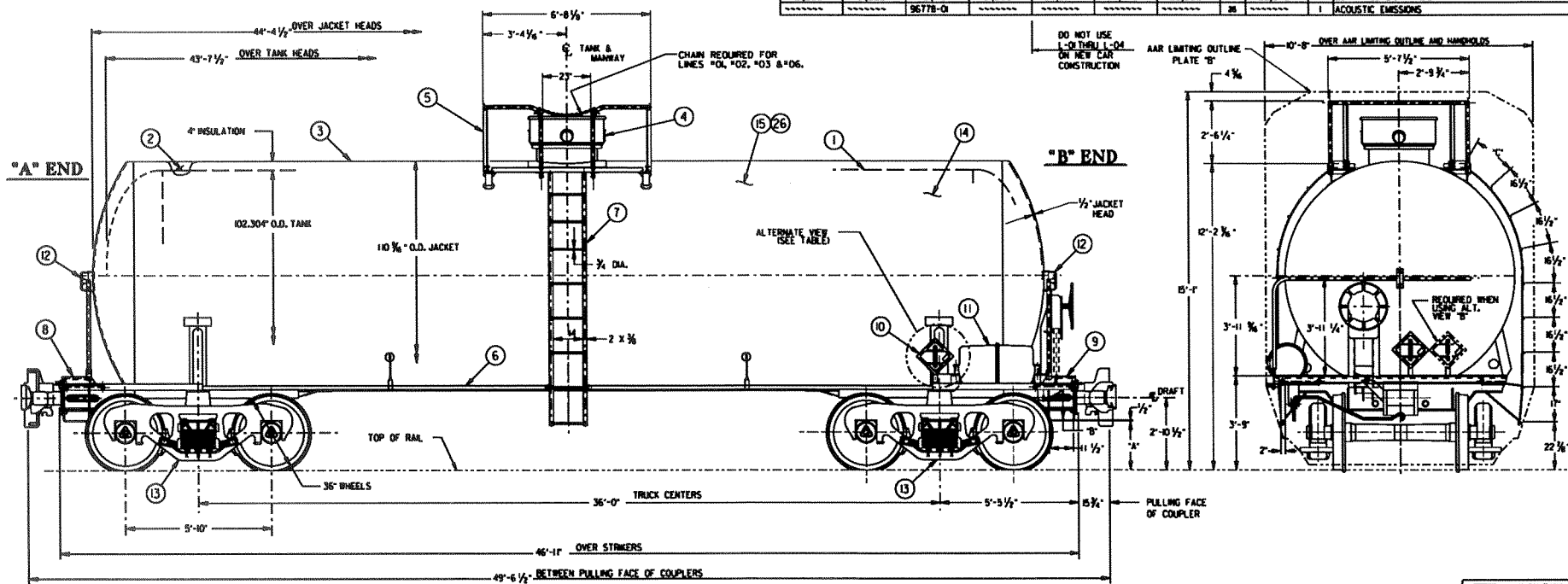
000026



1. ALL DIMENSIONS ARE FOR REFERENCE ONLY.
2. ALL SAFETY APPLIANCE HANDRAILS ARE 1 1/4" STANDARD PIPE UNLESS OTHERWISE NOTED.
3. ALL SAFETY APPLIANCE FASTENERS ARE 1/2" MIN. DIAMETER BOLTS OR RIVETS UNLESS OTHERWISE NOTED.
4. MINIMUM CLEARANCE AROUND LADDER STILES, TREADS, AND SAFETY RAILS IS 2 1/2".
5. TOTAL ESTIMATED LIGHT WEIGHT INCLUDES 2% MANUFACTURING TOLERANCE.
6. MD. 7 CROSSOVER WITH 13 FT. TRACK CENTERS COMPLIES WITH AAR 214.2.



BILL OF MATERIAL									
LINE 07	LINE 06	LINE 05	LINE 04	LINE 03	LINE 02	LINE 01	QTY	UNIT	DESCRIPTION
9964-00	9964-00	96741-0	96684-0	95453-0	92995-0	92994-0	1	92994-0	1 TANK ASSEMBLY
96704-0	96704-0	96704-0	96704-0	96704-0	96704-0	96704-0	1	96704-0	1 WASHLATOR ASSEMBLY
9975-0	9975-0	96683-0	96683-0	95463-0	92254-0	92254-0	1	92254-0	1 JACKET ASSEMBLY
99747-0	99747-0	96765-0	96747-0	93006-02	93006-0	93006-0	1	93006-0	1 LOAD / UNLOAD ASSEMBLY
9976-02	9976-02	96760-02	96745-02	95466-02	93008-02	93008-02	1	93008-02	1 OPERATING PLATFORM ASSEMBLY
92530-05	92530-05	92530-05	92530-05	92530-05	92530-05	92530-05	1	92530-05	1 SIDE SAFETY RAIL ASSEMBLY
99767-11	99767-11	9649-04	9649-04	94573-57	94573-57	94573-57	2	94573-57	2 SIDE LADDER ASSEMBLY
99984-02	99984-02	96654-04	96564-02	94542-02	92288-02	92288-02	1	92288-02	1 END PLATFORM ASSEMBLY, 'A'-END
99995-02	99995-02	96653-04	96552-02	95452-02	92220-02	92220-02	1	92220-02	1 END PLATFORM ASSEMBLY, 'B'-END
95092-02	95092-02	95092-02	96729-01	95092-01	92489-01	92489-01	1	92489-01	1 CAR ATTACHMENT ASSEMBLY
99724-0	99724-0	96749-03	96749-03	93840-03	93004-03	93004-03	1	93004-03	1 AIR BRAKE ASSEMBLY
96848-26	96848-26	96726-17	96726-17	92226-03	90083-11	90083-11	2	90083-11	2 END PLATE HANGER ASSEMBLY
99780-0	99780-0	96330-06	96330-06	93467-03	93043-02	93043-02	1	93043-02	1 TRUCK ASSEMBLY
99714-0	99714-0	96774-03	96774-03	94712-03	93043-03	93043-03	1	93043-03	1 PAINT AND STENCIL MARK
92995-99	92995-99	92995-99	92995-99	92995-99	92995-99	92995-99	1	92995-99	1 GAS ATMOSPHERE IN TANK
92995-99	92995-99	92995-99	92995-99	92995-99	92995-99	92995-99	1	92995-99	1 GRINDING, CLEANING AND BLASTING
96888-32	96888-32	96888-32	96888-32	93409-01	93007-01	93007-01	1	93007-01	1 TEMPORARY FITTINGS ASSEMBLY
96888-32	96888-32	96888-32	96888-32	93409-01	93007-01	93007-01	1	93007-01	1 STUD, NUT & GASKET KIT
96888-32	96888-32	96888-32	96888-32	93409-01	93007-01	93007-01	1	93007-01	1 PERMANENT GASKET KIT
96888-32	96888-32	96888-32	96888-32	93409-01	93007-01	93007-01	1	93007-01	1 DOT CLASS
96888-32	96888-32	96888-32	96888-32	93409-01	93007-01	93007-01	1	93007-01	1 ALT. VIEW--PLACARD HOLDER
23%	23%	23%	23%	23%	24	24	24	24	"A"
14%	14%	14%	14%	14%	14	14	14	14	"B"
6	6	6	6	6	6	6	6	6	"C"
82,500"	82,500"	82,500"	82,500"	82,500"	82,870"	82,870"	28	82,870"	28 ESTIMATED LIGHT WEIGHT
82,870"	82,870"	82,870"	82,870"	82,870"	82,870"	82,870"	28	82,870"	28 ACOUSTIC FUSIONS



NO.	A	B	C
101	101	101	101
102	102	102	102
103	103	103	103
104	104	104	104
105	105	105	105
106	106	106	106
107	107	107	107
108	108	108	108
109	109	109	109
110	110	110	110

CURVE NEGOTIABILITY MINIMUM RADIUS CURVE

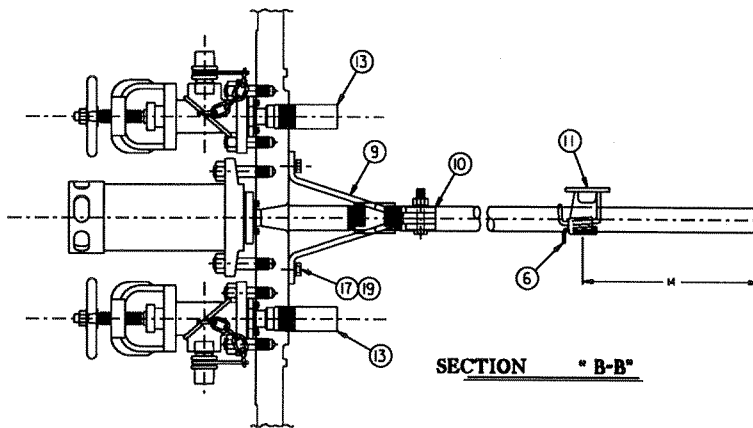
HORIZONTAL CURVE:

COUPLED TO ARI BASE CAR	175 FT.
COUPLED TO SIMILAR CAR	176 FT.
MISCOUPLED	158 FT.

VERTICAL CURVE

FROM THE NEW YORK STATE

08	5594-B	 UNION TANK CAR CO. 4001 E. 12TH AVE. DOW CITY, MISSOURI 64620	 AMERICAN TANK CAR CO. 1000 E. 12TH AVE. DOW CITY, MISSOURI 64620
07	5594-A		
06	6359-A		
05	6957-A		
04	6888-A		
03	6742-C	GENERAL ARRANGEMENT DOT-(TABLED), 17,300 GAL. NOM. CAP. STRAIGHT SHELL 44D CAR	
02	6742-B	Return to 4001 E. 12TH AVE. DOW CITY, MISSOURI 64620	Return to 1000 E. 12TH AVE. DOW CITY, MISSOURI 64620
01	6742-A	B/A 4001 E. 12TH AVE. DOW CITY, MISSOURI 64620	B/A 1000 E. 12TH AVE. DOW CITY, MISSOURI 64620
1 LINE	APPROV.	92995	

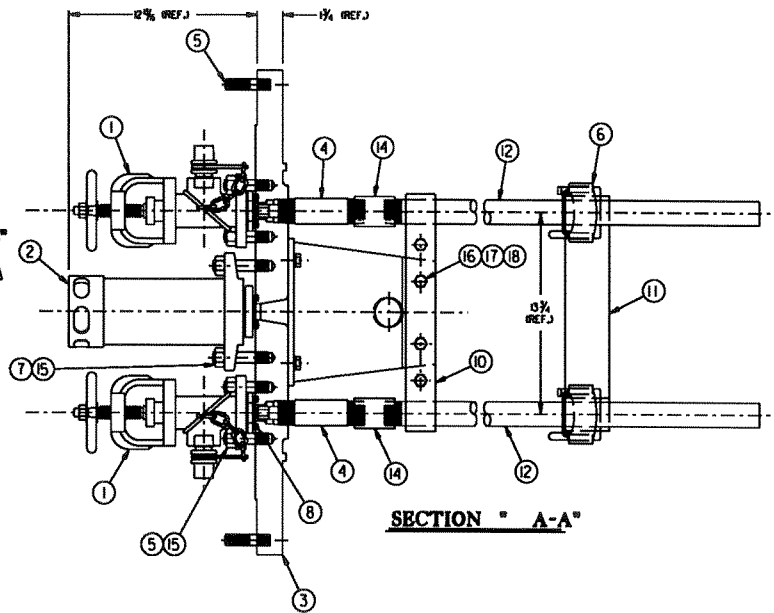
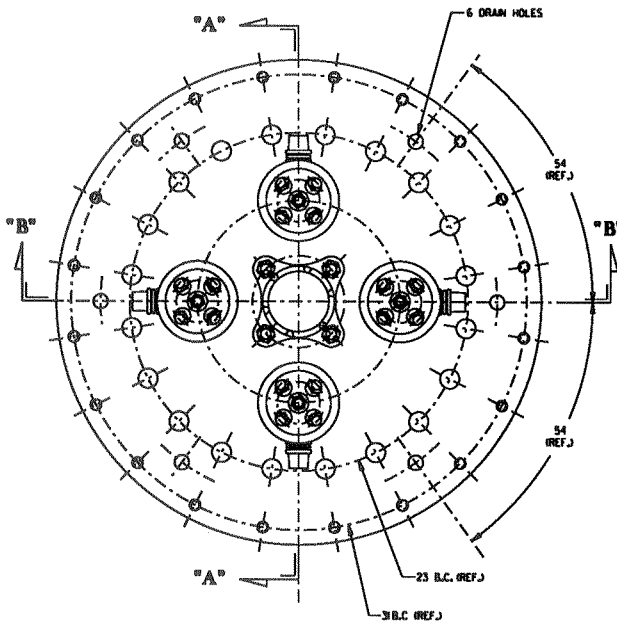


SECTION "B-B"

BILL OF MATERIAL			
SYM.	PART NO.	QTY.	DESCRIPTION
1	108-0837	4	VALVE, 1/4" ANGLE, CHLORINE INST. DRG. #04
2	108-4800	1	VALVE, SAFETY, 375"
3	89204-04	1	FLANGE, MANWAY S/A 23" B.C.
4	208-2462	2	VALVE, EXCESS FLOW, CHLORINE INST. DRG. #14
5	1995-01	36	STUD BOLT, 1/4" IN. DIA., CHLORINE SERVICE
6	313-1335	2	WEDGE, 1 1/4" IN. PIPE ANCHOR, WRIGHT #3594
7	1995-03	4	STUD BOLT, 1/4" IN. DIA., CHLORINE SERVICE
8	44523-02	5	GASKET, RING
9	04227-01	2	ANCHOR
10	03036-01	2	CLAMP, PIPE
11	89262-01	1	CLAMP, S/A
12	24463-80	2	PIPE, 1 1/4" IN. SCH. 80, THREADED ONE END
13	14228-56	2	PIPE, 1 1/4" IN. SCH. 80, THREADED ONE END
14	313-2590	2	COUPLING, 1 1/4" IN. RECESSED GRINDS. FGL #337 OR EQ.
15	704-787	20	NUT, HYT. MEX., 1/2" UNF-2B
16	304-7030	4	NUT, HYT. MEX., 1/2" UNF-2B
17	305-9900	8	WASHER, 1/2" IN. REGULAR HELICAL LOCK
18	304-1732	4	BOLT, 1/2" UNF-2A X 2 1/4" LG.
19	304-1320	4	BOLT, 1/2" UNF-2A X 1 1/4" LG.
20			
21			
22			

NOTES:

1. MAKE SURE ALL SURFACES ARE PROPERLY PREPARED AND PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. TEST THIS ASSEMBLY PER U.T.C. STANDARD PRIOR TO APPLICATION TO CAR.
3. DEGREASE ALL PIPES PRIOR TO ASSEMBLY.



SECTION "A-A"

A	B
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22

DEFAULT TOLERANCES - S/A DRAWING			
FRACTIONAL DIMENSIONS: 1/16"			
DECIMAL DIMENSIONS: 0.005"			
UNION TANK CAR CO.			
LOAD/UNLOAD S/A			
DOT 1055500N			
REV	DATE	BY	CHKD
1	4 AUG 93	3	8
2	10 AUG 93	3	8
3	10 AUG 93	3	8
4	10 AUG 93	3	8
5	10 AUG 93	3	8
6	10 AUG 93	3	8
7	10 AUG 93	3	8
8	10 AUG 93	3	8
9	10 AUG 93	3	8
10	10 AUG 93	3	8
11	10 AUG 93	3	8
12	10 AUG 93	3	8
13	10 AUG 93	3	8
14	10 AUG 93	3	8
15	10 AUG 93	3	8
16	10 AUG 93	3	8
17	10 AUG 93	3	8
18	10 AUG 93	3	8
19	10 AUG 93	3	8
20	10 AUG 93	3	8
21	10 AUG 93	3	8
22	10 AUG 93	3	8

FIRST USED WITH: 1055500N, REV 01, 1055500N, REV 01, 1055500N, REV 01

Appropriation: 6951
Serial Number: UTLX 900270
Release Date : 12/2/93

Car: 32

Location	Heat/Slab Number
A Head	832B31970/S310295
B Head	832B31970/S331564
C Head	
D Head	
Shell 1	821C07040/T573031-1
Shell 2	811C07040/T573033-1
Shell 3	821C07040/T573032-1
Shell 4	811C07040/T573034-2
Shell 5	811C07040/T573034-4
Shell 6	
Shell 7	
Shell 8	
Manway Neck	832B31970/T30136
Manway Flange	821A14200/S330883
Reinforcing Plate	811W09410/S331016
Manway Blank	811W09410/S331016



000031

BETHLEHEM STEEL CORPORATION
QUALITY ASSURANCE DEPARTMENT
REPORT OF TESTS AND ANALYSES

BURNS HARBOR PLANT

SHIPMENT NO. _____

DATE SHIPPED

CAR OR VEHICLE NO.

TRLR 07

PAGE 1

804-03916

5-11-93

GARY TFR

OLD TO UNION TANK CAR CO
300 151ST & RAILROAD AVE
EAST CHICAGO IN 46312

SHIP TO UNION TANK CAR CO
300 151ST ST & RAILROAD AVE
EAST CHICAGO IN 46312

NOTE	SERIAL NUMBER	PAT. NO.	HEAT NUMBER	SIZE AND QUANTITY						YIELD POINT PSI	TENSILE STRENGTH PSI	ELONG.		RED. %
				NO. PCS.	THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT	IN			%		
					INCHES	INCHES	INCHES	POUNDS						
				QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.										
	PLATES	-	SAR TC128 S.015 MAX CR B FLANGE QUAL REV 971/83 --- PLT NORMALIZE MILL TEST PCS SR 11/1200F FOR 1HR AIRCL											
	MFST	-	MON WED FRI 7A/2P TUE THUR 7A/11A LIFT MAX 10 TON-SIZES & GRADES SEP UNLDC OH-PLATE HOOK											
	CO# 1	-	76529 GH 824-1688											
	PLATES		HEAT TREATED WITH TEST SPECIMENS ATTACHED AND YIELD STRENGTH @ .5% E.U.L.											
	S310295		832B31970	3	N .828 130 1650	DEG F -	44	262 MIN	23994	67000	90100	8	22	
	S331523		832B31970	1	N .828 130 1650	DEG F -	44	262 MIN	7998	64100	89300	8	25	
	S331524		832B31970	1	N .828 130 1650	DEG F -	44	262 MIN	7998	66800	90500	8	22	
	S331525		832B31970	1	N .828 130 1650	DEG F -	44	262 MIN	7998	65900	89800	8	23	
	S331564		832B31970	1	N .828 130 1650	DEG F -	44	262 MIN	7998	63800	87800	8	24	
NOTE	Q—QUENCH TEMPERATURE T—TEMPERATURE N—NORMALIZE TEMPERATURE													

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	HARD	BEND	CHARPY IMPACT															MILS	
					THICKNESS	TYPE	SIZE	DIR.	TEST TEMP.	ENERGY			SHEAR (%)			LAT. EXP.					
					INCHES					1	2	3	1	2	3	1	2	3			
HEAT NUMBER		CHEMICAL ANALYSIS																	McQUAID GRAIN SIZE		
C	Mn	P	S	Si	Cl	Ni	Cr	Mo	V	Ti	Al	B	Cb	N							
832B31979	.23	1.37	.027	.004	.383	.013	.02	.04	.059	.060			.039								

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

SUPT. QUALITY ASSURANCE

R. F. HARTMANN

PER ESB

000032

BURNS HARBOR PLANT

SHIPMENT NO.

REPORT OF TESTS AND ANALYSES

804-06831

10- 5-93

GARY TFR

TRLE 32

PAGE 1

UNION TANK CAR CO
300 151ST ST & RAILROAD AVE
EAST CHICAGO IN 46312

SHIP TO UNION TANK CAR CO
300 151ST ST & RAILROAD AVE
EAST CHICAGO IN 46312

QTE	SERIAL NUMBER	PAT. NO.	HEAT NUMBER	SIZE AND QUANTITY						YIELD POINT	TENSILE STRENGTH	ELONG.		RED. %		
				NO. PCS.	THICKNESS	WIDTH OR DIA.		LENGTH	WEIGHT			PSI	PSI		IN	%
						INCHES	INCHES									
QUALITY STEEL MELTED & MANUFACTURED IN THE U.S.A.*THIS TEST REPORT CANNOT BE ALTERED & MUST BE TRANSMITTED INTACT WITH ANY SUBQ 3RD PRY TST RPT IF RQRD																
	PLATES -	BAR TC12B GR B	FLANGE QUAL REV													
		9/1/85	MILL TEST PCS NORM & SR													
	MFST -	1150/1200F	FOR 1HR MIN													
		MON WED FRI 7A/2P	TUE THUR 7A/11A	LIFT MAX	10											
		TON-SIZES & GRADES SEP UNLDG OH-PLATE HOOK														
	CO# 1-	76988 GH 824-2391														
0	T573033	811C07040	2	.777	94	1/2	321	13368	57900	81200	8	25				
	(MO1)MFST:	STOCK														
0	T573034	811C07040	4	.777	94	1/2	321	26736	59700	84800	8	20				
	(MO1)MFST:	STOCK														
	PLATES -	ASTM A516-90	GR 70 PVD	---	MILL											
		TEST PCS SR 11/1200F	FOR 1HR AIRCL													
	MFST -	MON WED FRI 7A/2P	TUE THUR 7A/11A	LIFT MAX	10											
		TON-SIZES & GRADES SEP UNLDG OH-PLATE HOOK														
	CO# 1-	77243 GH 824-2780														
0	T573035	822C40790	3	7/16	94	1/2	349	12276	55500	81100	8	22				
QTE C-QUENCH TEMPERATURE T-TEMPERATURE N-NORMALIZE TEMPERATURE																

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	HARD	BEND	CHARPY IMPACT													MILS	
					THICKNESS	TYPE	SIZE	DIR.	TEST TEMP.	ENERGY			SHEAR (%)			LAT. EXP.			
					INCHES					1	2	3	1	2	3	1	2		3
HEAT NUMBER	CHEMICAL ANALYSIS																McQUAID GRAIN SIZE		
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N				
811C07048 822C40798	:23	1:39	:024	:018	:441	:017	:01	:03	:053	:052		:043		.002					

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

SUPT. QUALITY ASSURANCE

R. F. HARTMANN

PER ESB

000033

BETHLEHEM STEEL CORPORATION

QUALITY ASSURANCE DEPARTMENT

REPORT OF TESTS AND ANALYSES

BURNS HARBOR PLANT

SHIPMENT NO.

DATE SHIPPED

CAR OR VEHICLE NO.

804-06842

10- 5-93

GARY TFR

TRLR 17

PAGE 1

SOLD TO UNION TANK CAR CO
300 151ST ST & RAILROAD AVE
EAST CHICAGO IN 46312

SHIP TO UNION TANK CAR CO
300 151ST ST & RAILROAD AVE
EAST CHICAGO IN 46312

NOTE	SERIAL NUMBER	PAT. NO.	HEAT NUMBER	SIZE AND QUANTITY					YIELD POINT	TENSILE STRENGTH	ELONG.		RED. %
				NO. PCS.	THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT			IN	%	
					INCHES	INCHES	INCHES	POUNDS	PSI	PSI	IN	%	
QUALITY STEEL MELTED & MANUFACTURED IN THE U.S.A.*THIS TEST REPORT CANNOT BE ALTERED & MUST BE TRANSMITTED INTACT WITH ANY SUBQ 3RD PRY TST RPT IF RQRD													
	PLATES -		AAR TC128 GR B FLANGE QUAL REV										
			9/1/85 --- MILL TEST POS NORM & SR										
	MFST -		1150/1200F FOR 1HR MIN										
			MON WED FRI 7A/2P TUE THUR 7A/11A LIFT MAX 10										
			TON-SIZES & GRADES SEP UNLDG OH-PLATE HOOK										
	CO# 1-		76988 GH 824-2391										
0	T573033		811C07040	2	.777	94 1/2	321	13368	57900	81200	8	25	
	(MOI)MFST:STOCK												
0	T573031		821C07040	2	.777	94 1/2	321	13368	62000	88000	8	27	
	(MOI)MFST:STOCK												
0	T573032		821C07040	4	.777	94 1/2	321	26736	60800	86400	8	23	
	(MOI)MFST:STOCK												

Q—QUENCH TEMPERATURE

T—TEMPERATURE

N—NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	HARD	BEND	CHARPY IMPACT														
					THICKNESS	TYPE	SIZE	DIR.	TEST TEMP.	ENERGY FT. LBS.			SHEAR (%)			LAT. EXP. MILS			
					INCHES					1	2	3	1	2	3	1	2	3	

HEAT NUMBER	CHEMICAL ANALYSIS															McQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	
811C07040	.22	1.39	.024	.012	.441	.015	.01	.04	.053	.059		.033				
821C07040	.22	1.39	.024	.012	.441	.015	.01	.04	.053	.059		.033				

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

SUPT. QUALITY ASSURANCE R. F. HARTMANN PER ESB

000034



Union Tank Car Company
Fleet Engineering

UTC Form RES 099-1
Rev E Apr-03

Qualification Inspection & Test

Reporting Mark and Car Number UTLX 900270

Shop Location UTCG

Stencilled Specification DOT 105 J500W

Built Date (month / yr) 12-93

Car Jacketed ☒

Car Non-Jacketed ☐

Inspection Date (month / yr) 5-04

Previous Commodity _____
(If under corrosive listing)

STRUCTURAL INTEGRITY INSPECTION

Inspection Area	Initial Inspection					Post Repair Inspection			
	Date & Initials	NDE Method	Level	Pass	Failed	Date & Initials	NDE Method	Level	Pass
All Transverse Fillet Welds > 1/4" within 4 ft of bottom centerline	6-7-04 JL	vi's	CWI	✓					
Bottom Outlet/ Skid/ Sump Area (See X-8261 Fig #4)	6-7-04 JL	vi's	CWI	✓					
Brake Bracket Pads (See X-8246 Fig #3 or #6)	6-7-04 JL	vi's	CWI	✓					
End of Terminating Repad - Inboard (See X-8261 Fig #5)	6-7-04 JL	vi's	CWI	✓					
Terminations of Longitudinal Fillet Welds > 1/4" within 4 ft of bottom centerline	6-7-04 JL	vi's	CWI	✓					
End of Terminating Repad - Inboard (See X-8261 Fig #2)	6-7-04 JL	vi's	CWI	✓					
Shell Butt Welds within 2 ft of bottom centerline (Exterior) if required	6-7-04 JL	vi's	CWI	✓					
Shell Butt Welds within 2 ft of bottom centerline (Interior)	6-7-04 JL								
Transverse Butt Welds in tank bottom reinforcing pads (Exterior)	6-7-04 JL	vi's	CWI	✓					
Tank Shell & Head Inspections (Interior)	6-7-04 JL								
Tank Shell & Head Inspections (Exterior)	6-7-04 JL	vi's	CWI	✓					
Tank Shell & Head Thickness Test	6-7-04 JL	UTT					UTT		
Draft Sill Welds and Parent Metal (Inboard)	6-7-04 JL	vi's	CWI	✓					
Bolster Web to Sill Welds (Inboard)	6-7-04 JL	vi's	CWI	✓					

Penetrant Testing Procedure followed ☐

Magnetic particle testing procedure followed ☐

Penetrant Testing Temperatures Verified ☐

MT Yoke serial number _____

SAFETY SYSTEMS INSPECTION

Inspection Area	Initial Inspection		
	Date & Initials	Pass	Failed
Insulation and/or Thermal Protection	6-7-04 JL	✓	
Tank Head Puncture Resistance	5-25-04 MB	✓	
Coupler Vertical Restraint	5-25-04 MB	✓	
Skid Protection or Breakage Groove on Bottom Outlets and Protective Housing	5-25-04 MB	✓	

Post Repair Inspection	
Date & Initials	Pass

Markings Inspection	Initial Inspection		
	Date & Initials	Pass	Failed
Car Legibility Marking			

Post Repair Inspection	
Date & Initials	Pass

Qualification Inspection & Test

Reporting Mark and Car Number UTLX 900270

Shop Location UTCG

Inspection Date (month / yr) 5-04

Lining or Coating Inspection	Initial Inspection				Post Repair Inspection	
	Date & Initials	Level	Pass	Failed	Date & Initials	Pass
Tank Interior	<u>N/A</u>					

Leakage Pressure Test	Initial Inspection					Post Repair Inspection			
	Date, Initials & Level	Technique	Medium	Pass	Failed	Date & Initials	Technique	Medium	Pass
All Product Piping, Fittings and Closures	<u>07-06-04 KG 11</u>			☒					

Technique: (A) Liquid Film (B) Visible Leak (C) Immersion

Medium used: (A) Air (B) Bubble Solution (G) Gas (W) Water

Pressure Gauge I.D. No. UA1511

Test Pressure (Psi) 70

Temperature Measuring Device I.D. No. 2916480101-0002

Surface Temp Verified 90

SERVICE EQUIPMENT INSPECTION

Inspection Areas	Initial Inspection					Post Repair Inspection			
	Date & Initials	Material		Pass	Failed	Date & Initials	Material		Pass
		CS	SST				CS	SST	
Valves / Fittings	<u>07-06-04 KG</u>			☒					
Piping (Eduction Tubes)	<u>07-06-04 KG</u>			☒					
Fittings Flange	<u>07-06-04 KG</u>			☒					
Excess Flow Valve with Threaded Seals for Tightness	<u>07-06-04 KG</u>			☒					
Heating & Measuring Devices	<u>07-06-04 KG</u>			☒					
Manway Cover	<u>07-06-04 KG</u>			☒					
Safety Vent / Vacuum Relief Valve	<u>N/A</u>								
Pressure Relief Device	<u>N/A</u>								
Interior Heater System	<u>N/A</u>								

Safety Valve Serial Number No. 1 _____

No. 2 _____

INSPECTION AND TEST COMPLETION DUE DATES

Inspections		Shop No.	Qualified Date	Due Date
Tank Qualification		<u>UTCG</u>	<u>2004</u>	<u>2014</u>
Thickness Test		<u>UTCG</u>	<u>2004</u>	<u>2014</u>
Service Equipment		<u>—</u>	<u>—</u>	<u>—</u>
PRD	<u>Valve 375psi</u>	<u>—</u>	<u>—</u>	<u>—</u>
Lining		<u>—</u>	<u>—</u>	<u>—</u>
88b Inspection		<u>UTCG</u>	<u>2004</u>	<u>2014</u>
Stub Sill Inspection		<u>UTCG</u>	<u>2004</u>	<u>2014</u>

Submit all completed forms to: Union Tank Car Company, Attn: Fleet Repair Engineering, East Chicago, IN.

000036



Union Tank Car Company
Fleet Engineering

UTC Form RES 099-3
Rev E Jan-03

Qualification Inspection & Test

Reporting Mark and Car Number

UTX 900270

Shop Location

UTCG

FAILED AREAS AFTER INSPECTION

Defect Type: (A) Crack in Parent Metal (B) Crack in Weld (C) Corrosion (D) Incomplete Fusion (E) Pinhole (F) Porosity (G) Undercut (H) Surface Irregularity (I) Missing Weld (J) Slag Inclusions (K) Overlap

How Repaired: (A)10.2 (B)10.5 (C)11.1 (D)11.2 (E)11.3 (F)11.4 (G)11.5 (H)13.2 (I)Replace in Kind (O)Other (Explain in Remarks).

Shown below are failed areas on tank or tank attachments that cannot be reported on R-2 or Res-016 forms

No.	Location on Car	Defect Type	How Repaired	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

For weld repairs that will damage lining, fill out and submit Form FRN-107

Supervisor


Signature

Date

07-06-04


Printed Name

Submit all completed forms to: Union Tank Car Company, Attn: Fleet Repair Engineering, East Chicago, IN.

000037

OLIN CORPORATION
CHLORINE TANK CAR MAINTENANCE CERTIFICATE

OLIN CORPORATION: (CITY, STATE) Charleston, Tenn.

DATE: 7-28-04

CAR # <u>UTLX900270</u>	TANK SPEC: DOT 105J500W	CAPACITY (GAL) <u>17,403</u>	BLT DATE: <u>12-93</u>
CROSBY 1-1/2" JQ-375 PSIG COMBINATION PRESSURE RELIEF DEVICE			
START TO DISCHARGE PRESSURE: 360 PSIG +/- 10.8		VAPOR TIGHT PRESSURE: 300 PSIG MINIMUM	
BREAKING PIN LOWER DIAPHRAGM GAS TIGHT AT: 300 PSIG MINIMUM		SERIAL NO:	
PRESSURE RELIEF DEVICE: REBUILT AND TESTED BY: OL		INSTALLED BY: OL	

REASON FOR MAINTENANCE BY OLIN:

- | | |
|--|--|
| ☐ Clean Tank, Prepare for Entry by Shop | ☐ Re-qualify Service Equip, Apply Station Stencil |
| ☐ Investigate/Repair Customer Complaint, ORC Incident, Leak, DOT Citation, other | ☐ Perform 3 Year Safety Valve Rebuild, Tank Wash, Internal Inspection |
| ☒ Perform Return-from-Shop Internal Inspection and PRV, Safety Valve Replacement | ☐ Perform Work for Other Car Owners or Leaser |
| ☐ Clean Tank Prepare Car for Release from Service | ☒ Check Pressure Plate Groove Dimensions |
| ☐ Convert Car to Cl2 Service | |
| ☐ Other (Specify) | |

AS-FOUND CONDITION (SCALE, PITTING, BATHTUB RING, OBJECTS IN TANK, BAD GASKET SURFACE, BAD CHECK, ETC)

Pressure plate seating surfaces for angle valves + safety valve were painted, bottom of pressure plate seating surface and seating surface for pressure plate on car had paint on them

WORK PERFORMED BY OLIN CORPORATION AT

- | | |
|--|--|
| ☒ Cleaned Tank Gas Free | ☒ Verified Excess Flow Valve Diameter (1.360") |
| ☐ Blanked-out Commodity Stencil, Removed Placards | ☒ Verified Excess Flow Valve Seat Tight |
| ☐ Pressure Washed or Sandblasted Tank Interior (circle which) | ☒ Replaced Excess Flow Valve: Body / <u>Seat</u> / <u>Ball</u> |
| ☐ Performed Service Equipment Regualification | ☒ Replaced Pressure Plate and <u>Manway Gasket</u> |
| ☐ Performed Tank Wall Thickness Test | ☐ Replaced Protective Housing |
| ☒ Perform Internal Visual Inspection | ☐ Replace Studs (specify which) |
| ☐ Performed Safety Systems Inspection | ☐ Replaced 4 ACF-1301 angle valves in-kind |
| ☒ Pressure Tested Eduction Pipes | ☐ Replaced Crosby 1-1/2" JQ Pressure Relief Device |
| ☐ Other (Specify) | ☐ Performed leak test of assembled car by: |
| | ☒ Applied or Uncovered Commodity Stencil |

AV _____
DUE _____
OL _____
SV _____
DUE _____
OL _____

VALVE DATES

	STATION STENCIL	QUALIFIED	DUE
TANK QUALIFICATION	UTCG	2004	2014
THICKNESS TEST	UTCG	2004	2014
SERVICE EQUIPMENT	DLCTN	2004	2014
PRESS RELIEF DEVICE	DLCTN	2004	2014
88.b.2 INSPECTION	UTCG	2004	2014
STUB SILL INSPECTION	UTCG	2004	2014

-----OR-----

TANK TEST 500 PSIG

TESTED: _____ MM/YY

SAFETY VALVE TEST 375PSIG

TESTED: _____ MM/YY

THICKNESS AND INTERNAL INSPECTION DUE: _____ YY

OL _____

DUE: _____ MM/YY

OL _____

DUE: _____ MM/YY

I HEREBY CERTIFY THAT THE ABOVE WORK PERFORMED TO TANK CARS AND PRESSURE RELIEF VALVES WAS DONE IN ACCORD WITH THE DEPARTMENT OF TRANSPORTATION REGULATIONS AND THE AAR SPECIFICATIONS FOR TANK CARS AND REPORTED CORRECTLY.

7-28-04

000038

Mechanical Details: UTLX 900270

Car Type/Size: CHLORINE 16 M 17,000 GAL
Built: Dec-01-1993
Duty Status: Not Applicable

Tare(lb.): 81,300 Last Reported: Dec-01-1993 Shop: EAST CHICAGO,IN-PLANT 1

Truck Capacity(lb.): 100,000 Load Limit(lb.): 180,000 Maximum Weight on Rail: (lb.): 263000

Paint: BLACK & WHITE URETHANE OVER EPOXY PRIMER Last Reported: Jul-06-2004
Coating:

Dimensions

49 ft. 07 in. Extreme Length - Length Over Coupler Pulling Faces
10 ft. 08 in. Extreme Width
15 ft. 01 in. Extreme Height
ft. in. Height at Extreme Width
36 ft. 00 in. Truck Centre Length
B Clearance

Inspection and Test

Tank Qualification

Qualified: Jul-06-2004 Location: VALDOSTA,GA-REPAIR SHOP Requalification Due: 2014

Service Equipment Qualification

Qualified: Jul-28-2004 Location: OLIN Requalification Due: 2014

Pressure Relief Device Qualification

Qualified: Jul-28-2004 Location: OLIN Requalification Due: 2014

Coating/Lining Qualification

Qualified: Location: Requalification Due:

Corrosive Service: N

Rule 88.B.2 Inspection

Qualified: Jul-06-2004 Location: VALDOSTA,GA-REPAIR SHOP Requalification Due: 2014

Stub Sill Requalification Due: Jan-01-2014



Report Of Tank Car Stub Sill Inspection

SS3 X FILE ONLY

01. Car Reporting Mark and No. UTLX 900270 02. Inspection Performed By UNION TANK CAR CO.
03. Stencilled Class 105J300W 04. Shop Location VALDOSTA, GA
05. Built Date (MO./YR.) 12/1993 06. Date of Inspection 6/7/2004
07. Car Jacketed ? (Y/N) Y 08. Head Brace ? (Y/N) Y
09. Car Overhang (inches) 65.5 10. Original AAR Cert. of Construction No. A937060
11. Builder UTL 12. Stub Sill Design Style ZBN
13. Total Mileage to Nearest 1,000 Miles 90
(actual cumulative mileage required)

Transverse Weld Cracks (if more than one, record longest)

Enter max. crack length to nearest 1/4 inch (0, .25, .5, .75)

Enter 0 if no crack

Enter NA if item not applicable

	Inspection Technique	A-END Number of Cracks	Maximum Length	Inspection Technique	B-END Number of Cracks	Maximum Length
14. A-1 Pad to Tank	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
15. B-1 Pad to Sill (If no head brace)	<u>NA</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>0</u>	<u>0</u>
16. C-1 Head Brace to Sill	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
17. D-1 Head Brace to Pad	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
18. E-1 Other (Car Builder Specified)	<u>NA</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>0</u>	<u>0</u>

Longitudinal Weld Cracks (if more than one, record longest)

Enter max. crack length to nearest 1/4 inch (0, .25, .5, .75)

Enter 0 if no crack

Enter NA if item not applicable

	Inspection Technique	A-END Number of Cracks	Maximum Length	Inspection Technique	B-END Number of Cracks	Maximum Length
19. A-2 Pad to Tank	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
20. B-2 Pad to Sill	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
21. C-2 Head Brace to Sill	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
22. D-2 Head Brace to Pad	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
23. E-2 Other (Car Builder Specified)	<u>NA</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>0</u>	<u>0</u>

Parent Metal Cracks (if more than one, record longest)

Enter max. crack length to nearest 1/4 inch (0, .25, .5, .75)

Enter 0 if no crack

Enter NA if item not applicable

	Inspection Technique	A-END Number of Cracks	Maximum Length	Inspection Technique	B-END Number of Cracks	Maximum Length
24. Tank	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
25. Pad	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
26. Sill Webs	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
27. Sill Top Flange	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
28. Sill Bottom Flange	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
29. Head Brace	<u>VT</u>	<u>0</u>	<u>0</u>	<u>VT</u>	<u>0</u>	<u>0</u>
30. Other (Design Specific)	<u>NA</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>0</u>	<u>0</u>

Inspector's Name : JOHN GARVITTE

Car Owner's Representative : UTC

Comments :

Submit all completed forms to : Union Tank Car Company, East Chicago, IN. (Fleet Repair Engineering)

000040

Rule 88b Inspection Checklist

Union Tank Car Company
Fleet Repair Engineering

UTC FORM RES 016-1

Reporting Mark and Number		UTLX	900270	Inspection Date		5/25/2004		Jacketed (Y/N)		Y	
Performed By				UNION TANK CAR CO		Location		VALDOSTA, GA			
Repairs (Y/N)		N		Built By		UNION TANK CAR CO		Car Owner		UTC CO	

Inspection Area	1st Inspection					2nd Inspection				
	Date	Initials	NDE Method	Level	P/F	Date	Initials	NDE Method	Level	P/F
Bolster Web to Sill Webs (Inboard)										
Bolster Web to Sill Webs (Outboard)										
Inboard Draft Sill Webs and Parent Metal										
Outboard Draft sill welds and parent (Not required with SS3 report)										

Inspection Area	Inspection	Repair
	Passed / Failed / NA	Yes
Striker	P	
Front Draft Lugs	P	
Rear Draft Lugs	P	
Center Plates	P	
Tank hold down straps at bolster	NA	
Tank center anchors and bolts	NA	
Coupler	P	
Yoke	P	
Draft Gear	P	
Handbrake	P	
Crossbearers	NA	
Crossties	NA	
End sill frames	P	
End sill gratings	P	
Side Sills	P	
Truck Wheels	P	
Wheels Bearings	P	
Wheel Axles	P	
Truck friction casting rise	P	
Truck bolster bowl	P	
Truck springs	P	
Truck bolsters	P	
Truck side frames	P	
Truck mounted brakes	NA	
Jacket	P	

Reporting Mark + Number	UTLX	900270
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Inspected By:	MARK BARGERON
---------------	---------------

Date:	5/25/2004
-------	-----------

Entered by (initials)	SS
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Date entered:	8/9/2004
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000041



225 Maple Avenue
 Johnstown, PA 15901
 814.535.5448 phone
 814.541.2101 24-hour hotline
 814.535.5667 fax
 800.505.RNDT Toll Free
 info@rndt.net email
<http://www.rndt.net> web

NONDESTRUCTIVE TESTING REPORT

Client: Union Tank Car				Date: 2/17/2005												
Address: P.O. Box 2003				RNDT Job #: J5-1048												
Altoona, PA 16603				Cust. P.O.#: n/a												
Spec. / Code:		ASME Section V		Acc. Std.:		Customer Information Only										
Part Number:		UTLX-900270		Dwg.#:		n/a										
Inspection Method:		AE MT PT RT UT VT CWI Other		XX												
Type of Inspection:		Pre-Service In-Service Inprocess Other		XX												
Areas Inspected:		As directed by the NTSB - See Below														
By use of an L-wave echo to echo ultrasonic technique, eight areas were tested to determine thickness. The areas were designated by the NTSB and were approximately one foot from the puncture towards the A -end. The clock locations were as viewed from the B-end and were as follows: <table border="1"> <tr> <td>12:00 - 0.792"</td> <td>4:30 - 0.787"</td> <td>9:00 - 0.802"</td> </tr> <tr> <td>1:30 - 0.791"</td> <td>6:00 - 0.788"</td> <td>10:30 - 0.795"</td> </tr> <tr> <td>3:00 - 0.792"</td> <td>7:30 - 0.791"</td> <td></td> </tr> </table>								12:00 - 0.792"	4:30 - 0.787"	9:00 - 0.802"	1:30 - 0.791"	6:00 - 0.788"	10:30 - 0.795"	3:00 - 0.792"	7:30 - 0.791"	
12:00 - 0.792"	4:30 - 0.787"	9:00 - 0.802"														
1:30 - 0.791"	6:00 - 0.788"	10:30 - 0.795"														
3:00 - 0.792"	7:30 - 0.791"															
By use of a shear wave ultrasonic technique, several score-marks were examined to determine if cracking was present. The score marks were located on the B-end bulkhead left side. No evidence of cracking was detected at the time of examination.																
See technique sheet page 2 of 2 for equipment, materials, and settings.																
Technician:		[Signature]		Level III		Date: 2/17/2005										
Asst. Tech.:		[Signature]		Level		Date:										
Client Review:																
Attachments:		Yes		Sketches:		No										
Technique Sheet Attached:		Yes		Technique Number:		J5-1048										
All inspection results are valid only at the time of inspection.																



228 Maple Ave
 Johnstown, PA
 Phone: 814-535-5448
 Fax: 814-535-5667
 email: rndt@charter.net
 web: www.rndt.net

DATE 2/17/2005
 LOCATION Altoona, PA
 TECHNIQUE NO. J5-1048
 CUST. JOB NO. UTLX-900270

ULTRASONIC TECHNIQUE RECORD

CLIENT Union Tank Car	PROCEDURE NO. RNDT-UT-ASMEV, Rev. 0
P.O. NO. n/a	ACCEPTANCE CRITERIA Customer information only
UT INSTRUMENT INFO.	CALIBRATION BLOCK INFO.
MAKE Sonotest	TYPE 4 step SERIAL NO. A15777
MODEL Sitiescan 140	TYPE DSC SERIAL NO. A16570
SERIAL NO. 1402626X	TYPE SERIAL NO.
CAL. DUE DATE 4/14/2005	COUPLANT
INSTRUMENT DATA	MANUFACTURER Sonotest
MATERIAL VELOCITY L 2323	TYPE Ultragell II
MATERIAL VELOCITY S 1262	SEARCH UNIT INFO.
RANGE 2", 5" & 10"	MAKE KB
REJECT off	MODEL Benchmark
DAMPING off	SERIAL NO. 012HX2
DISPLAY A-scan	SIZE .63" X .63"
MODE PE	FREQUENCY 2.25 MHz
FREQUENCY 2.25 & 5.0 MHz	ANGLE 60° & 70°
GAIN REFERENCE 48 & 60 dB	MAKE KB
GAIN SCAN 70 dB	MODEL Gamma RHP
ADDITIONAL EQUIPMENT	SERIAL NO. 013J8J
	SIZE 0.50"
	FREQUENCY 5.0 MHz
	ANGLE 0°
	MAKE n/a
	MODEL
	SERIAL NO.
	SIZE
	FREQUENCY
	ANGLE

The recording of false, fictitious, or fraudulent statements or entries on this document may be punished as a felony under federal statutes, including Federal Law Title 16, CH 47. Test results are valid at the time of inspection only.

NOTES

Inspected By: [Signature]	Level: III	Date: 2/17/05	Reviewed By:	Level:	Date:
---------------------------	------------	---------------	--------------	--------	-------

**Association of American Railroads
Manual of Standards and Recommended Practices
Specifications for Tank Cars**

M4.07 EXTERIOR COIL MATERIALS

In addition to the plate materials specified in Table M1, the following plate, shape and strip materials are approved for exterior heater coils:

Carbon steel

ASTM A36 Structural Steel.
ASTM A414 Sheets, Grade C.
ASTM A569 Sheet and Strip.
ASTM A570 Sheet and Strip, Grade 33.
ASTM A607 Grade 50.
ASTM A659 Sheet and Strip, Grade 1015.
SAE 1015 Sheet or Strip, silicon killed.

Stainless steel

ASTM A240 Types 304, 304L, 316, 316L.

Aluminum

ASTM B221 Extruded Shapes, Alloy 6061-T4, -T6.

**M128.00 SPECIFICATION FOR HIGH STRENGTH CARBON MANGANESE
STEEL PLATES FOR TANK CARS—AAR TC128**

M128.01 SCOPE

(a) This specification covers one grade of high strength carbon manganese steel plate for use in fusion welded tank car tanks. The maximum thickness must be 1 inch (25.4 millimeters). Moderately high manganese content, together with small amounts of other elements, provide for high strength with limited carbon content. The steel must be made to fine grain practice. Welding technique is of fundamental importance, and it is presupposed that welding procedure will be in accord with good practice.

(b) The material must be furnished in the as-rolled or normalized condition. When specified for low temperature service, the material must be furnished normalized to meet the Charpy V-notch energy absorption requirements of 15 ft-lb (20.3 joules) minimum average for 3 specimens, and 10 ft-lb (13.6 joules) minimum for one specimen, at minus 50F (minus 45.6°C) in the longitudinal direction of rolling, in accord with ASTM A370.

M128.02 GENERAL CONDITION FOR DELIVERY

Material furnished under this specification must conform to the applicable requirements of ASTM A20, titled "General Requirements for Steel Plates for Pressure Vessels", except, when specified for low temperature service, refer to M128.01(b) for the energy absorption requirement, only.

M128.03 PROCESS

The steel must be made by the open hearth, electric furnace or basic oxygen process.

M128.04 CHEMICAL COMPOSITION

The steel must conform to the chemical composition requirements prescribed in Table M128.04.

**Association of American Railroads
Manual of Standards and Recommended Practices
Specifications for Tank Cars**

**TABLE M128.04
CHEMICAL REQUIREMENTS**

Element		Grade B	
		Ladle Analysis, Percent	Product Analysis, Percent
Carbon	Max.	0.25	0.29
Manganese			
For plates 3/4" (19.0 mm) and under in thickness		1.00-1.35	0.92-1.46
For plates over 3/4" to 1" (over 19.0 to 25.4 mm) in thickness		1.00-1.50	0.92-1.62
Phosphorus	Max.	0.035	0.035
Sulfur	Max.	0.040	0.040
Silicon			
For plates 3/4" (19.0 mm) and under in thickness		0.15-0.40	0.13-0.45
For plates over 3/4" to 1" (over 19.0 to 25.4 mm) in thickness		0.15-0.50	0.13-0.55
Vanadium a/	Max.	0.08	0.08
Copper a/	Max.	0.35	0.35
Nickel a/	Max.	0.25	0.25
Chromium a/	Max.	0.25	0.25
Molybdenum a/	Max.	0.08	0.08

a/ These elements will be reported when requested by the purchaser.

M128.05 TENSILE PROPERTIES

The material as represented by the test specimens must conform to the tensile properties prescribed in Table M128.05.

**TABLE M128.05
TENSILE REQUIREMENTS**

Property		Grade B
Tensile strength, psi (MPa)		81,000 to 101,000 (560 to 695)
Yield strength, psi (MPa)	Min.	50,000 (345)
Elongation in 8 in. (200 mm) percent	Min.	16.0 a/
Elongation in 2 in. (50 mm) percent	Min.	22.0

a/ For material under 5/16 inch (7.94 mm) thick, a reduction from the specified percent elongation of 1.25 percent must be made for each decrease of 1/32 inch (0.794 mm) of thickness below 5/16 inch (7.94 mm). For material over 3/4 inch (19.0 mm) thick, a reduction from the specified percent elongation of 0.5 percent must be made for each increase of 1/8 inch (3.18 mm) of the thickness above 3/4 inch (19.0 mm). This reduction must not exceed 3 percent.

M128.06 Open.

M128.07 TEST SPECIMENS

Test specimens furnished by the steel manufacturer must be prepared from the material in the condition specified for the plate use, such as normalized, as-rolled or postweld heat treated.

**Association of American Railroads
Manual of Standards and Recommended Practices
Specifications for Tank Cars**

M128.08 NUMBER OF TESTS

One tension test must be made from each plate as rolled.

Note: The term "plate as rolled" used here refers to the unit plate rolled from a slab, or directly from an ingot, in its relation to the location and number of specimens, not to its condition.

M128.09 INSPECTION

(a) The inspector representing the purchaser shall have free entry, while the work on the contract of the purchaser is being performed, to all parts of the manufacturer's works which concern the manufacture of the material. The manufacturer shall afford the inspector, free of charge, all reasonable facilities and necessary assistance to satisfy him that the material is being furnished in accord with these specifications. Tests and inspection must be made at the place of manufacture, prior to shipment, unless otherwise specified.

(b) The purchaser may make tests to cover the acceptance or rejection of the material in his own laboratory or elsewhere. Such tests must be made at the expense of the purchaser.

M128.10 REJECTION

(a) Material represented by samples which fail to conform to the requirements of these specifications will be rejected.

(b) Material which shows injurious defects, subsequent to its original inspection and acceptance at the manufacturer's works, or elsewhere, will be rejected, and the manufacturer must be notified.

M128.11 REHEARING

Samples, tested in accord with these specifications, which represent rejected material must be held for a period of fourteen days from date of the test report. In case of dissatisfaction with the results of the tests, the manufacturer may make claim for a rehearing within that time.

**M133.00 SPECIFICATION FOR HIGH STRENGTH NINE PERCENT NICKEL
ALLOY STEEL PLATES, DOUBLE NORMALIZED AND TEMPERED—AAR TC133**

M133.01 SCOPE

(a) This specification covers high strength nine percent nickel alloy steel plates, double normalized and tempered, for use in fusion welded tank car tanks.

(b) Material furnished under this specification must conform to the requirements of ASTM A353, with modifications to chemical composition and impact requirements as follows:

Appendix A

Part 4

Hazardous Materials Group Factual

GATX 58326

Graniteville, SC
DCA-05-MR-008

000047

GATX 58326 (was OLNK 21156)

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

APPROVAL REQUESTED OF: ☐ Precedent ☒ AAR Tank Car Committee Ballot AAR APPLICATION NO. 4791056-A

BO # 50013-L

Applicant's No. 18-15397Date 11-26-79Applicant ACF Industries, Incorporated - AMCAR DivisionAPPLICATION FOR APPROVAL OF: ☒ Construction ☐ Conversion ☐ Alterations ☐ Welded ☐ Repairs (Other)

Reporting Marks

and Car Numbers OLNK 21111 thru 21217Number of Cars 107

1. Tank Specification DOT 111A100W1
2. Stenciled Specification DOT 111A100W1
3. Commodity See Notes
4. Initial Commodity Wt. Per Gal., Lbs. See Notes
- TANK SHELL:
5. Full Water Capacity, Gal. 16,100
6. Dome Capacity or Outage, Gal. 27=322
7. Material & Thickness ASTM A-515 Gr. 70 except for AAR TC-128 Gr. E ctr. sect., 7/16" thk. heads & shell
8. Lining None Inside Diameter, In. 103 1/4"
9. Head Radius, Main, In. 2:1 Ell Knuckle, In. N.A.
10. Test Pressure, PSI 100
11. Insulation, In. 6 Kind 3/4" F.G.
- Thermal Conductivity, Btu-in./hr.-sq.-F 0.24

SAFETY RELIEF DEVICES:

12. Type ValveNumber 1 Start to Discharge, PSI 7513. Flow Capacity, CFM (Air) Actual 134014. Flow Capacity, CFM (Air) Required 13215. Tank Surface Area, Sq. Ft. 1104

CAR STRUCTURE:

16. Bolster Slabbing Area, Sq. Ft. N.A.17. Estimated Light Wt., Lbs. 62,50018. Center of Gravity Loaded, In. 83.219. Rail Load Limit, Lbs. 263,00020. Truck Capacity, Tons 10021. AAR Clearance Diagram Pl. B

NOTES: Commodities authorized for this class car by Part 173 of the DOT Hazardous Material Regulations for which there are no special commodity requirements and non-regulated commodities compatible with design of car (Initial Commodity: Caustic Soda 12.7#/gal. @ 68 F).

The Following Drawings Apply

	Drawing Number	Precedent Drawing Number	Application Number
22. General Arrangement	4-H-5455-A		
23. Arrangement, Tank	4-H-3748-A		A791011-B
24. Reinforced Openings, Including Calculations	4-H-5458-A		
25. Anchorage, Including Calculations	4-F-5277-B		A781046-B
26. Fittings Arrangement	4-H-5457-B		
27. Manway Assembly/Cover	3-A-5299-D		A771050
28. Protective Housing	See It. 26		
29. Venting, Loading and Discharge Valves	See It. 26		
30. Safety Relief Devices, Midland Mfg. Corp.	A-1775-P		A761033
31. Heater Systems	None		
32. Gaging Devices	Visual Gage Bar		
33. Bottom Outlet Valve, ACF	6-G-9111-1-H		A791017-A
34. Repairs			
35.			
36.			

REVISIONS: "A" 3-10-80

APPLICATION BY R. B. Polley

I certify that the foregoing conforms to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards.

SIGNATURE [Signature]TITLE Product EngineerDate of Order: 4-23-79

APPROVAL AAR Tank Car Committee

Date Approved

APR 15 1980

(Signature) on behalf of Tank Car Committee

CERTIFICATION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others required by 49 CFR Part 179.5 before these cars are placed in service.

Initials and Car Numbers:

SEE ATTACHED SHEETS

Date September 23, 1980

By

Title Manager, Quality Assurance

Form AAR 4-2 Revised 3-10-77

Page 1 of 5

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EXHIBIT R-1

Report of WELDED REPAIRS, ALTERATION or CONVERSION

1. To: Secretary, Mech. Div. AAR
Bureau of Explosives AAR
Car Owner
2. Reporting marks and number or numbers GATX 58326
ACF # 18-15397
3. Reported by GENERAL AMERICAN TRANS. CORP. & Date 8-28-89
5. Performed at General American Trans. Corp; Houston, TX.
6. Report of ☐ Conversion ☒ Alterations ☐ Welded repairs ☐ Other
7. Tank built date 6-80 8. Built by ACF
9. Original AAR Appl. No. A711056-3 10. Commodity CAUSTIC SODA
(after this work)
11. Constructed tank spec. DOTU11A00-W-1 12. Tank Spec. DOTU11A00-W-1
13. Stenciled spec. DOTU11A00-W-1 (after this work)
14. Repairs: (Furnish details on back page)
A. Nature of location of defect NONE
B. Cause
C. Repair procedure
15. Alteration or conversion:
A. Type ALTERATION
B. Procedure Revised from OLIX 21156 to GATX 58376
C. Materials

16. Pertinent precedent approved drawings

DRAWING TITLE	DRAWING NUMBER	PRECEDENT APPROVED APPLICATION NO.
A. _____	_____	_____
B. _____	_____	_____
C. _____	_____	_____
D. _____	_____	_____
E. _____	_____	_____
F. _____	_____	_____

17. Revisions and Notes:

18. The cars enumerated above conform to all precedent approvals mentioned and to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange and the DOT safety appliance standards.

By: T. S. LAPIKAS/LNB Title: MGR. RAILCAR MAINT. ENG.

Rev. 10-80

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