# PLR

1 APPROVAL REQUESTED OF: PRECEDENT NON-PRECEDENT	2 TYPE: CONSTRUCTION	ы [ ]	WELDED RÉPAI	4 DATE:	
C TOWNTY INDUCTRIES INC	CONVERSION			5 APPLICANT'S NO	
6 APPLICANT: TRINITY INDUSTRIES, INC. P.O. BOX 568887 D.	ALLAS, TEXAS 7	53!	6-8887	7 TANK SPECIFICATI 8 STENCILED SPEC	
	191377 thru TIL			10 NUMBER OF CARS	
S REPORTING MARKS & CAR NUMBERS 11LX	1919/7 tille file	X 1.	71000	10 NUMBER OF CARS	100
11 Initial commodity SEE	NOTES	12	Density, Ib.	per gallon	6.59
13 Full water capacity, gal.	30,145	14	Dome capa	city or outage, gal. p	er DOT 173.24b(a)(1)
	A516 Gr. 70	16	Material typ	e & grade - shell	AAR TC128 Gr. B
17 Material thickness - heads, in.	7/16			kness - shell, in.	7/16
	ONE	20	Inside diam	eter - center, in.	119-3/8
21 Inside diameter - end rings, in.	119-3/8	22	Head radius	, main, in. (if not 2:1)	2:1 ELLIPSOIDAL
23 Test pressure, psig	165	24	Insulation ty	pe	NONE
25 Insulation thickness, in.	N.A.	26	Thermal cor	nductivity, Btu-in/hr-ft2-°F	N.A.
27 Type and number of pressure relief devices	ONE VALVE	28	Pressure relie	ef device start-to-discharge,	psig 75
29 Pressure relief device flow cap'y., scfm req'd.	10,846 *	30	Pressure relic	of device flow capacity, scfn	n, actual 21,602
31 Tank surface area, sq. ft.	1755	32	Underframe	or stub sill type	STUB SILLTRN 023
33 Center of gravity, loaded, in.	88.7	34	Est, light we	ight, Ib.	66,200
35 AAR clearance diagram	С	36	Rail load lin	it, lb.	263,000
37 Truck capacity, tons	100	38	Head shield	S	NONE
NOTES: * Gu = 23.71 for Ethyl Alcohol per Table A	5 at 75 psig start-to-di	sch			
	T.D. 1470 (	_		ig. Cert.	
Ethyl Alcohol and products authorized in DO	Part 1/3 for which	n		ilder ate	
there are no special commodity requirements commodities compatible with this class of ca		1		ormer lading	
Commodities compatible with this class of ca				moriality	
	T			The following pr	ior approvals apply:
The Following Drawings Apply	Drawing N	umb	er	Drawing Number	Application/Certificate No.
20 0	D-41689A				L046029
40 Tank Arrangement	D-43655 S		1H		
AA Datafaarad Onester	D-43655 S	_			
40 D-1-1 9 D B DIII A1	D-440494-02				L036029
A2 Cut Assessment	D-55021-0	_		/	L046061
44 A4 A	D-643668				L036064
45 Protective Housing	C-38275F				L036048B
46 Venting, Loading and Discharge Valves	See Page				
47 Pressure Relief Devices	MIDLAND		2097		PRD022004
48 Heater Systems (Int Ext )	NONE				
49 Gauging Devices (Visual Scale)	D-43655	SH.	2C		
50 Bottom Outlet Valve	Jamesbury 4"	5R	ET3-22HB1	T	E989005
51 Bottom Outlet Arrgt	D-55757-0				L046063A
52 Manway cover	D-243613				L046011
53 Calculations	D-644023	SH	1.1 & 2		L026066
54 Tank Qualification Drawing	D-41451E	3			L046043
REVISIONS:			APPLICAT	ION BY: WILLIA	M R. BITTING
			I certify that the	foregoing conforms to all appli	cable DOT and AAR requirements
			including Speci	fications. Regulations. Rules of	Interchange, and the DOT Railroad
			Safety Applian		
			SIGNATUR		DECION ENGINEED
			TITLE	SENIOR	DESIGN ENGINEER
APPROVAL - AAR Tank Car Committee		_			·
Date A	opproved MA	R	18 200	5	,
,	,pp. 0 0 0 1 1 1		10 200		f of Tank Car Committee
CERTIFICATION: The cars enumerated below co including Specifications, Regulations. Rules of Interch Construction will be furnished to the owner and others Initials and Car Numbers:	ange and the DOT Ra	ailroa	d Safety Appl	iance Standards Copy of t	his Certificate of service
			Name		Date 3-28-05
TILX 19/377-191539			_		()
Form AAR 4-2 Revised 12/1/00			Title _	Director Quanty	ASSUIANCE

AAR Number\_ February 17, 2005

# APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

	THE FOLLOWING DRAWINGS APPLY	<u>DRAWING</u> <u>NUMBER</u>	PRECEDENT APPLICATION NUMBER
	15" FLUED NOZZLE 15" MULTI-HOUSING NOZZLE ASSEMBLY	D-440083A D-440146B	L.046011 L.986056
	15" MULTI-HOUSING NOZZLE COVER FLANGE	D-440199B	L046063A
58.	6" SAFETY VALVE NOZZLE ASSEMBLY	B-27507K	L996141B
<b>59</b> .	SAFETY VALVE ARRANGEMENT	D-45651-03C	L046029

<u>LINE 46VENTING, LOADING AND DISCHARGE VALVES</u> THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT <u>D-55021-01</u>
1" SCREWED END BALL VALVE         WATTS CFBV-AAR
3" SCREWED END BALL VALVE  JAMESBURY 6FR-2236-MT

Cars are constructed in accordance with all applicable DOT/TC and AAR requirements. Car body structure meets the requirements of S-286-2002.

	APPLICATION BY	William R. Bitting
	l certify that the foregoin	ng conforms to all applicable DOT and
		ading Specifications, Regulations, Rules
		OT Railroad Safety Appliance
	Standards.	
	SIGNATURE 👱	
	TITLE	Senior Design Engineer
		mal
PROVAL AAR Tank Car Committee	Date Approved MAR 18 2005	
		ue) on behalf of Tank Car Committee

AP

Page 2 of 2

1 APPROVAL REQUESTED OF: PRECEDENT	2 TYPE: CONSTRUCTIO	N	WELDED REPAI	RS	3 AARNO	Page 1 of2 L056059
✓ NON-PRECEDENT	ALTERATION	-	OTHER		4 DATE:	JULY 8, 2005
6 TOWNTY INDUSTRIES INC	CONVERSION				5 APPLICANTS NO.	
6 APPLICANT: TRINITY INDUSTRIES, INC. P.O. BOX 568887	ALLAS, TEXAS 7	/E2/	56 0007		7 TANK SPECIFICAT	
	192303 thru TIL				8 STENCHED SPEC	
	192470 thru TIL				10 NUMBER OF CAR	s0U
	NOTES		Density, lb.	ner gallon		6.59
13 Full water capacity, gal.	30,145		Dome capac			per DOT 173.24b(a)(1)
	1 A516 Gr. 70		Material type			AAR TC128 Gr. B
17 Material thickness - heads, in.	7/16		Material thic			7/16
	ONE		Inside diame			119-3/8
21 Inside diameter - end rings, in.	119-3/8		Head radius			2:1 ELLIPSOIDAL
23 Test pressure, psig	165	24	Insulation ty	ре		NONE
25 Insulation thickness, in.	N.A.	26	Thermal cor	ductivity,	Btu-in/hr-ft2-oF	N.A.
27 Type and number of pressure relief devices	ONE VALVE				art-to-discharge	
29 Pressure relief device flow cap'y., scfm req'd.	10,846 *				ow capacity, scfr	
31 Tank surface area, sq. ft.	1755		Underframe		ill type	STUB SILLTRN 023
33 Center of gravity, loaded, in.	88.7		Est. light we			66,200
35 AAR clearance diagram	<u>C</u>		Rail load lim			263,000
NOTES: *Gu = 23.71 for Ethyl Alcohol per Table	100	38	Head shield	S		NONE
NOTES: * Gu = 23.71 for Ethyl Alcohol per Table	A5.		Or	ig. Cert.		
Ethyl Alcohol and products authorized in DOT	Part 173 for which			ilder		· · · · · · · · · · · · · · · · · · ·
there are no special commodity requirements			Da			
commodities compatible with this class of car.			Fo	rmer ladir	ng	
	<u> </u>		· · · · · · · · · · · · · · · · · · ·	т	bo following pr	iar annousle and
The Following Drawings Apply	Drawing No	b		THE REAL PROPERTY.		ior approvals apply:
The Following Drawings Apply	Drawing No D-41778	מוזוג	er	Drawin	g Number	Application/Certificate No.
39 General Arrangement	D-41778 D-43786 S	· LI	1			
40 Tank Arrangement 41 Reinforced Openings	D-43786 S	_				<del> </del>
42 Bolster & Draft Sill Arrgt	D-440494-01 S					L056062 Pending
43 Fittings Arrangement	D-55096E	71. 17.0.27				L000002 Feliality
44 Manway Assembly	D-643668-	-113	3B			
45 Protective Housing	C-38275F	<u> </u>				L036048B
46 Venting, Loading and Discharge Valves	See Page	2				
47 Pressure Relief Devices	MIDLAND	_	2097			SRD 022004
48 Heater Systems (Int. Ext. )	NONE					
49 Gauging Devices (Visual Scale)	D-43786 S	H.	2			
50 Bottom Outlet Valve	NONE					
51 Boltom Outlet Arrgt	D-55779C	_				L056010
52 Manway cover	D-243613				<del></del>	L056072 Pending
53 Calculations	D-644023	_	.1&2			L026066
54 Tank Qualification Drawing	D-41451B		1 mm 1 1 2 1 1 1 1	211 511	1440.1.1.1	L046043
REVISIONS:			APPLICATION			M R. BITTING
						cable DOT and AAR requirements
			Safety Applianc			Interchange, and the DOT Railroad
			SIGNATURI			
			TITLE	-	SENIUK	DESIGN ENGINEER
APPROVAL - AAR Tank Car Committee		_	• • • • •		/	
	JUL	2	9 2005			
Date A	pproved			-/C		(7.10.0
CERTIFICATION: The	nform to the character		and density			of Tank Car Committee
CERTIFICATION: The cars enumerated below concluding Specifications, Regulations, Rules of Intercha						
Construction will be furnished to the owner and others						
Initials and Car Numbers:						
TIIN 197262-192737 1			Name	-		Date 8-3-05 uality Assurance
TILX 192363-192332 + Form AAR 4-2 Revised 12/1/00 TILX 192	1170-1924	99	Trick -		Director Ol	uality Assurance
FORM AAR 4-2 Revised 12/1/00 / ICX 19 2	4/0-1/2-1/	,	Title			**************************************

AAR Number	L056059	
Applicant's No.	T05019	
Date	July 8, 2005	

THE FOLLOWING DRAWINGS APPLY	<u>DRAWING</u> <u>NUMBER</u>	PRECEDENT APPLICATION NUMBER
55. 15" FLUED NOZZLE	D-440083A	L046011
56. 15" MULTI-HOUSING NOZZLE ASSEMBLY	D-440146B	L986056
57. 15" MULTI-HOUSING NOZZLE FLG. ASSEMBLY	D-840137C	
58. 15" MULTI-HOUSING NOZZLE COVER FLANGE	D-840136B	
59. BOTTOM OUTLET SADDLE ASSEMBLY	D-443885B	
60. 6" SAFETY VALVE NOZZLE ASSEMBLY	B-27507K	L996141B
61. SAFETY VALVE ARRANGEMENT	D-45651-09A	

LINE 46VENTING, LOADING AND DISCHARGE VALVES	
THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT D-55096  2" SCREWED END BALL VALVE JAMESBURY 6FR-3600-MT	
3" SCREWED END BALL VALVE	
JAMESBURY 6FR-3600-MTAAR E989012	
MIDLAND A-209-W VACUUM RELIEF VALVE AAR E002001	

Cars are constructed in accordance with all applicable DOT/TC and AAR

requirements. Car bo	dy structure me	eets the requi	rements of S	-286-2002.
		AAR require	the foregoing ements, includ ge and the DO	William R. Bitting conforms to all applicable DOT and ing Specifications, Regulations, Rules T Railroad Safety Appliance
·		TITLE		Senior Design Engineer
PPROVAL AAR Tank Car Committee	Date Approved_	JUL 29		) on behalf of Tank Car Committee
/4.4.4 A M M T T - 4.1 INC Y 13 CU 1 Z = 1 = UU				Dans 0 C 0

# SLM

1	APPROVAL RE	EQUESTED OF:	PRECEDENT	2 TYPE: CONSTRUCTION		WELDED REPA	ırs	3 AAR NO		Page 1 of L066051	2
			✓ NON-PRECEDENT	ALTERATION		OTHER		4 DATE:		AUG. 11, 2	006
6		TOBUTY	IDLICTRICO INC	CONVERSION				5 APPLICANT'S NO	-	T06002	
0	APPLICANT:		NDUSTRIES, INC		700	50 0007		7 TANK SPECIFICA		DOT 111A	
_		P.O. BOX	The same of the sa	DALLAS, TEXAS				8 STENCILED SPE		DOT 111A	100VV1
Э	REPORTING I	MARKS & CAR NUMBER	RS II	LX 194095 thru TIL	X	94294		10 NUMBER OF CAR	35	200	
11	Initial co	mmodity		SEE NOTES	110	Danaite Ib				0.05	
13	Full water	er capacity, g	a1 ·	30,145		Density, lb.			-	6.05	V/4\
		type & grade		STM A516 Gr. 70		Dome capa				173.24b(a	
		thickness - h		7/16		Material typ Material thi				TC128 Gr	. В
-	Lining ty		eaus, III.	NONE						7/16	
		ameter - end	rings in	119-3/8		Inside diam Head radiu				119-3/8	
23	Test pre	ssure, psig	mys, m.	165		Insulation t		. (II not 2:1)		ELLIPSOID	AL
25	loculatio	n thickness, i						DA in //n = 42 t		NONE	
123	Turn	in unickness, i	ssure relief devices	N.A. ONE VALVE				Btu-in/hr-ft2-		N.A.	
20	Property	number of pre	ow cap'y., scfm req'd.					art-to-discharg		165	30
		rface area, so		10,846 * 1755				ow capacity, so			
						Underframe		ш туре		SILLTRN	1 023
35	AAD ala	of gravity, load arance diagra	acu, III.	88.7 C	_	Est. light w				66,200	
33	Truck or	arance diagra	<u> </u>	100		Rail load lin				263,000	
			for Ethyl Alcohol per T		38	Head shield	1S			NONE	
	Ethyl Ald	cohol and pro	ducts authorized in	DOT Part 173 for whice	h d	Br Da	rig. Cert. uilder ate ormer ladin	ng			
					****						
								ne following p			
L			Drawings Apply	Drawing N		ber	Drawing	g Number	Applica	tion/Certifica	ate No.
		Arrangement		D-41689C						L066046	
		angement	esasse vere la cer an in an incide april 19 an a	D-43783				****		052 PEND	
		ed Openings	at all the contracts at an area as as as a	D-43783						052 PEND	ING
		Draft Sill Arrgt	a seed seed and the seed officer of the sign of		_		`	~~~		L056062	
	_	rrangement						7			
					_	5E				L056121	
		e Housing	sessioner in the sprop up up in the first in the	C-38275F						L036048B	
			scharge Valves	See Page							
		Relief Devices			MIDLAND A-2165					PRD 00201	2
48	Heater S	ystems (Int	□Ext □)								
		Devices	(Visual Scale)	D-43783						052 PEND	ING
		outlet Valve	in the Beth Herbertster (Charles and Inc. de Science)	Jamesbury 4"						E989005	
		outlet Arrgt		D-55757-(							
	Manway			D-243613		1 1 0 0				L066028A	
	Calculation	***********	And the specification of the	D-644023 S		:IS 1 & Z				L026066	
		alification Draw	ing	D-41451E	-			2111211		L046043	
KE	REVISIONS:  APPLICATION BY: SANDY L. MCQUEEN  I certify that the foregoing conforms to ell applicable DOT and AAR requirements including Specifications. Regulations Rules of total distinct and the DOT Railroad Safety Appliance Standards  SIGNATURE  TITLE  FINGINEERING MANAGER										
AP	PROVAL	- AAR Tank	Car Committee					77.7			-
				ite Approved SEP	1	5 2006					/
_								nature on beha			
Co	luding Spe nstruction	cifications, Reg will be furnishe ar Numbers:	gulations, Rules of Inte d to the owner and ot	ow conform to the above erchange and the DOT R hers as required by 49 Cl	ailro	ad Safety App	oliance Stan	dards Copy o	of this Cert R service	lificate of	
-	TUX	194 ng5	- 194294			Name_			<u>,</u> √D€	ite 9-19	-06
	-	2 Revised 12/1	4 40	^		Title _	nia	ector Quali	ty Assu	ance	

AAR Number	L066051	
Applicant's No	T06002	
Date	Aug. 11, 2006	-

THE FOLLOWING DRAWINGS APPLY	DRAWING NUMBER	PRECEDENT APPLICATION NUMBER
55. 15" FLUED NOZZLE	D-440083A	L046011
56. 15" MULTI-HOUSING NOZZLE ASSEMBLY	D-440146B	L986056
57. 15" MULTI-HOUSING NOZZLE COVER FLANGE	D-840171A	L056122
58. 6" SAFETY VALVE NOZZLE ASSEMBLY	B-27507K	L996141B
59 SAFETY VALVE ARRANGEMENT	D-55536A	L066027A

LINE 46VENTING, LOADING AND DISCHARGE VALVES THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT <u>D-55140-01</u>
1" SCREWED END BALL VALVE         JAMESBURY 23-2236MT-1
3" SCREWED END BALL VALVE  JAMESBURY 6FR-2236-MTAAR E989012  WATTS CFBV-AAR

Cars are constructed in accordance with all applicable DOT/TC and AAR requirements Car body structure meets the requirements of S-286-2002.

	AAR requirements, including of Interchange and the L	Sandy L. McQueen  ng conforms to all applicable DOT and uding Specifications, Regulations, Rules DOT failroad, Safety Appliance
	Standards. SIGNATURE TITLE	/ Engineering Manager
PPROVAL AAR Tank Car Committee	Date Approved SEP 1 5 2006	ure) on behalf of Tank Car Committee

	• -		_			Page 1 of2
= 1	2 TYPE CONSTRUCTIO	N [	WELDED REPAI		3 AAR NO	L086172A
NON-PRECEDENT	ALTERATION	l	OTHER			OCTOBER 7, 2008
C TRINITY TANK CAR INC	CONVERSION					T06021D & T06021YA
6 APPLICANT: TRINITY TANK CAR, INC.	ALLAC TEVACE	7521	FC 0007		7 TANK SPECIFICATIO	
	ALLAS, TEXAS 7	53:	56-8887		8 STENCILED SPEC.:	
9 REPORTING MARKS & CAR NUMBERS SEE PA	GE Z			,	O NUMBER OF CARS	768
11 Initial commodity SEE	NOTES	12	Density, lb.	per gallon		6.59
13 Full water capacity, gal.	30,145	_	Dome capa		ge. gal.	per DOT 173.24b(a)(1)
	A516 Gr. 70	_	Material typ			AAR TC128 Gr. B
17 Material thickness - heads, in.	7/16		Material thic			7/16
	ONE		Inside diam			119-3/8
21 Inside diameter - end rings, in.	119-3/8		Head radius			2:1 ELLIPSOIDAL
23 Test pressure, psig	165		Insulation ty			NONE
25 Insulation thickness, in.	N.A.				Btu-in/hr-ft <sup>2</sup> -°F	
27 Type and number of pressure relief devices	ONE VALVE				rt-to-discharge,	
	.11,120*				v capacity, scfm	
31 Tank surface area, sq. ft.	1755		Underframe			STUB SILLTRN 023
33 Center of gravity, loaded, in.	88.7		Est. light we		7,	66,200
35 AAR clearance diagram	С		Rail load lin			263,000
37 Truck capacity, tons	100		Head shield			NONE
NOTES: * Safety valve sized using default equation of	of A8.1.1.1					
				rig. Cert.		
ETHYL ALCOHOL and products authorized in				uilder		
which there are no special commodity require				ate		
non-regulated commodities compatible with th	is class of car.			ormer ladin	<u>g</u>	
		I.		Th	e following pri	or approvals apply:
The Following Drawings Apply	Drawing N	umb	er		Number	Application/Certificate No.
39 General Arrangement	D-41759			Brawing	TAGIIDO	L056040A
40 Tank Arrangement	D-43832 S	SH	1F			L076126
41 Reinforced Openings	D-43832				·	L076126
42 Bolster & Draft Sill Arrgt.	D-440494-01					L056062
43 Fittings Arrangement	D-55174B		IT U ZA			L076016
44 Manway Assembly	D-643668	_	5.1			L086055
45 Protective Housing	C-38275F	_	-			L036048B
46 Venting, Loading and Discharge Valves	See Page		-			20000408
47 Proceure Police Devices	MIDLAND		2165			SRD002012
48 Heater Systems (Int.   Ext.   )	NONE					E029014
49 Gauging Devices (Visual Scale)	D-43832	SH.	2A			L076126
50 Bottom Outlet Valve	Jamesbury 4"					E079011
51 Bottom Outlet Arrgt.	D-55901A				·	L086071
52 Manway cover	D-243613					L076027
53 Calculations	D-644023	SH	I. 1A & 2B			L086007 Pending
54 Tank Qualification Drawing	D-41451E					L046043
REVISIONS:			APPLICAT	ION BY:	SANDY	L. MCQUEEN
				_		able DOT and AR requirements
Rev. A, January 9, 2013: Revised lines 5, 9 & 10.			including Speci			pad
			Safety Applian	~		
			SIGNATUR		/	_
			TITLE		ENGINE	ERING MANAGER
APPROVAL - AAR Tank Car Committee					0 - /	
	JAN 182	107	3			
Date A	pproved.	0 1	<u> </u>			
CERTIFICATION!						of Tank Car Coffimittee
<b>CERTIFICATION:</b> The cars enumerated below co including Specifications, Regulations, Rules of Interchar						
Construction will be furnished to the owner and others a	•					
Initials and Car Numbers:						
356 PAGE 2			Name_			Date 1/25/13
			_	7		0
Form AAR 4-2 Revised 12/1/00			Title		V P Quality	Assurana

AAR Number	L086172A
Applicant's No.	T06021D & T06021YA

Date

OCTOBER 7,

2008

#### APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

THE FOLLOWING DRAWINGS APPLY	DRAWING NUMBER	PRECEDENT APPLICATION NUMBER
<ul> <li>55. 15" FLUED NOZZLE</li> <li>56. 15" MULTI-HOUSING NOZZLE ASSEMBLY</li> <li>57. 15" MULTI-HOUSING NOZZLE COVER FLANGE</li> <li>58. 6" SAFETY VALVE NOZZLE ASSEMBLY</li> <li>59. SAFETY VALVE ARRANGEMENT</li> </ul>	D-440083A D-440146D D-840171B B-27507K D-55536A	L046011 L076091A L076169A L996141B L066027A

LINE 46---VENTING, LOADING AND DISCHARGE VALVES THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT D-55174

1" SCREWED END BALL VALVE

JAMESBURY 6FR-2236-MT ------WATTS CFBV-AAR ------ AAR E049018 ELLCON 2S6BS-FPMP-1 -----

Cars are constructed in accordance with all applicable DOT/TC and AAR requirements. Car body structure meets the requirements of S-286-2006.

Line 9: TILX 195246 – 195394, TILX 198025 – 198196, TILX 198297 – 198324, TILX 198705 - 198759, TILX 198910 - 199011, TILX 199061 - 199149, TILX 199193 – 199293, TILX 199368 – 199374, TILX 199736 – 199800.

> APPLICATION BY Sandy L. McQueen 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** Engineering Manager TITLE

Date Approved 8 2013

(Signature) on behalf of Tank Car Committee

1		o [7]	,	_		•		Page 1 of	
1 APPROVAL REQUESTED OF:	PRECEDENT	2 TYPE: CONSTRUCTION	N [	WELDED REPAI	RS	3 AAR NO	1101/5	L066070A	
	✓ NON-PRECEDENT	ALTERATION	l	OTHER		4 DATE:		MBER 10, 200	
6 TOINITY II	NDUCTOIC INC	CONVERSION				5 APPLICANTS			
6 APPLICANT: TRINITY II		DALLAC TEVAC 7	· F O /	50.0007		7 TANK SPECIFI	-	DOT 111A1	
P.O. BOX		DALLAS, TEXAS 7	53:	56-8887		8 STENCILED S			00W1_
9 REPORTING MARKS & CAR NUMBE	RS SE	EE PAGE 2				10 NUMBER OF	ARS	922	
11 Initial commodit		TE NOTEO	40	D 1 11	<del></del>	<del></del>			
11 Initial commodity				Density, lb.				6.59	
13 Full water capacity, g		30,145		Dome capa				OT 173.24b(a)	
15 Material type & grade		M A516 Gr. 70		Material typ			A	AR TC128 Gr.	<u>B</u>
17 Material thickness - h				Material thic				7/16	
19 Lining type				Inside diam				119-3/8	
21 Inside diameter - end	rings, in.			Head radius		. (if not 2:1)	2:	1 ELLIPSOIDA	<del>\</del> L
23 Test pressure, psig				Insulation ty			-	NONE	
25 Insulation thickness,				Thermal co				N.A.	
27 Type and number of pre				Pressure relie				165	
29 Pressure relief device fl		11,120 *		Pressure relie					
31 Tank surface area, se		1755		Underframe		ill type	STU	B SILLTRN	023
33 Center of gravity, loa				Est. light we				66,200	
35 AAR clearance diagr	am	С		Rail load lin		`		263,000	
37 Truck capacity, tons		100	38	Head shield	ls			NONE	
<b>NOTES:</b> * Gu = 24.31 for	Ethyl Alcohol at 165 psig	start-to-discharge press	ure	per L056040	Α.				
Ethyl Alcohol and pro	oducts authorized in DO	T Dot 170 for which			rig. Cert.				
	commodity requirement				uilder ate				
	ible with this class of ca			-	ormer ladi	00			
	iore man and order or ou				·	ng .			
					· · T	he following	prior ap	provals apply:	
The Following Drawin	nas Apply	Drawing Nu	imb	er		g Number		ication/Certificat	e No
39 General Arrangement	3- 1 4-1)	D-41759			210.00	ig (tallibo)		L056040A	o no.
40 Tank Arrangement		D-43832 S	H	1D			_	L066050	
41 Reinforced Openings		D-43832 S					4 17	L066050	
42 Bolster & Draft Sill Arrgt		D-440494-01 S						L056062	
43 Fittings Arrangement	***************************************	D-55174A		IA G ZA			-	L030002	
44 Manuay Assembly		D-643668		5F			+	L066060A	-
45 Protective Housing		C-38275F	10.	01				L036048B	
46 Venting, Loading and D	iecharge Valvee	See Page	2					L030040B	
47 Pressure Relief Devices		MIDLAND		2165				CDD000040	
48 Heater Systems (Int.	`	NONE	<u> </u>	2103			_	SRD002012	
40 Causing Davison	Vieuel Cools)	D-43832 S	<u> </u>	24			_	1.000050	
49 Gauging Devices( 50 Bottom Outlet Valve	visuai Scale)	Jamesbury 4"						L066050	$\overline{}$
51 Bottom Outlet Arrgt.		***			<u>'</u>	_		E989005	
52 Manway cover		D-55757-0 D-243613	_				_	L066051	
53 Calculations		D-644023		1 4 9 2 D			_	L066028A	
17*********		D-41451B		I. I & ZD				L066112	-
54 Tank Qualification Draw REVISIONS:	/IIIY	L D-41401B	-	A DDI IOAT	ON DY	0-		L046043	
REVISIONS.				APPLICAT			dy L. Mo		
							•	OT and AAR requires	
Rev. A. Jan. 9, 2013: Revis	<u>sed lines 5, 9 &amp; 10.</u>						of Intercha	inge. and the DOT R	ailroad
-1 650 r	400 - A			Safety Appliance	_				
T				SIGNATUR	E	// //			<u> </u>
ADDDOMAL AADT :	00		-	TITLE		- 7	igineerii	ng Manager	
APPROVAL - AAR Tank	Car Committee	JAN 18 20	113				V - 7		
	Date	Approved	110	,					
	Date	Approved			Sic	nature on hel	nalf of Tar	nk Car Ommittee	
CERTIFICATION: The	e cars enumerated below	conform to the above on	nro	ed description					,
including Specifications, Re									
Construction will be furnished	ed to the owner and others	as required by 49 CFR	Par	t 179.5 before	these cars	are placed in	service.		
Initials and Car Numbers:					-			/	./
SEC PAGE 2		•	٠.	Name				Date //28	113
								3 <del>7</del>	
Form AAR 4-2 Revised 12/1	1/00			Title	V	P Quality A	ssuranc	é	

AAR Number_	L066070A
Applicant's No.	T06021
Date	November 10, 2006

	THE FOLLOWING DRAWINGS APPLY	<u>DRAWING</u> <u>NUMBER</u>	PRECEDENT APPLICATION NUMBER
55.	15" FLUED NOZZLE	D-440083A	L046011
56.	15" MULTI-HOUSING NOZZLE ASSEMBLY	D-440146B	L986056
57.	15" MULTI-HOUSING NOZZLE COVER FLANGE	D-840171A	L056122
58.	6" SAFETY VALVE NOZZLE ASSEMBLY	B-27507K	L996141B
59.	SAFETY VALVE ARRANGEMENT	D-55536A	L066027A

<u>LINE 46---VENTING, LOADING AND DISCHARGE VALVES</u>
THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT <u>D-55174</u>

GEMINI 86-4RT6-S8-L ------<u>AAR E009023A</u>

Cars are constructed in accordance with all applicable DOT/TC and AAR requirements. Car body structure meets the requirements of S-286-2006.

Line 5: T06021, T06021A, T06021B, T06021C, T06021X, T06021Y & T06021Z

Line 9: TILX 194625 – 195245, TILX 198197 - 198296, TILX 199012 – 199060, TILX 199150 – 199192, TILX 199294 – 199367, TILX 199801 – 199835.

			APPLICATIO	N BY	Sandy L. McQueen	
			I certify that the	foregoing of	conforms to all applicable DOT a	and
			AAR requiremen	nts, includi	ng Specifications, Regulations, R	tules
			of Interchange ar	nd the DOJ	Railroad Safety Appliance	
			Standards.			
			<b>SIGNATURE</b>		_	
2			TITLE	10	Engineering Manager	
	s .	2	1 A N 1 Q 2017			
			JAN 18 2013			

APPROVAL AAR Tank Car Committee

Date Approved

(Signature) on behalf of Tank Car Committee

	PRECEDENT	2 TYPE: CONSTRUCTION		WELDED REPA		3 AAR NO		76034A 7 26, 2007
-		CONVERSION				5 APPLICANTS NO		6092
6 APPLICANT: TRINITY TANK	CAR, INC.					7 TANK SPECIFICAT		OT 111A100W1
P.O. BOX 5688		ALLAS, TEXAS	753	56-8887		8 STENCILED SPEC		OT 111A100W1
9 REPORTING MARKS & CAR NUMBERS	TILX	194310 thru TIL	X 1	94339	1	O NUMBER OF CAR		30
11 Initial commodity	SEE	NOTES		Density, lb.			6.5	
13 Full water capacity, gal.		30,145		Dome capa				73.24b(a)(1)
15 Material type & grade - he	ads ASTM	1 A516 Gr. 70		Material typ				C128 Gr. B
17 Material thickness - heads 19 Lining type		7/16		Material thi			7/1	
21 Inside diameter - end rings		ONE		Inside diam				9-3/8
23 Test pressure, psig	5, 1(1.	119-3/8 165		Head radiu		(if not 2:1)		LIPSOIDAL
25 Insulation thickness, in.		N.A.	_	Insulation t		D4. 1-11-42 0		ONE
27 Type and number of pressure	a solief doulean	ONE VALVE				Btu-in/hr-ft <sup>2</sup> -°		V.A.
29 Pressure relief device flow ca	teller devices	10,846 *				art-to-discharge w capacily, scf		165
31 Tank surface area, sq. ft.	py., som requ.	1755		Underframe				35,608 LLTRN 023
33 Center of gravity, loaded,	in	88.7		Est. light w		type		900
35 AAR clearance diagram	, , , , , , , , , , , , , , , , , , , ,	C		Rail load lin				3,000
37 Truck capacity, tons		100		Head shield				NE
NOTES: * Gu = 23 71 for Et	hyl Alcohol per Table			Troub ornor				711
					rig. Cert.			
Ethyl Alcohol and products	s authorized in DOT	Part 173 for which	1		uilder			
there are no special comm	nodity requirements	and non-regulated	ı		ate			
commodities compatible w	in this class of car				ormer ladin	g		
					Th	e following pr	ior approva	als apply:
The Following Drawings A	vlaa	Drawing N	umł	ner .		Number		n/Certificate No.
00 0		D-41778A		701	Diawing	Namber	L066	
40 Took Assessment	ssisteration of many manifest of an	D-43835 S		1D		· · · · · · · · · · · · · · · · · · ·	- 12000	000
A1 Deinforced Occaines		D-43835 S					<del> </del>	
42 Bolster & Draft Sill Arrgt		D-440494-01	_				L056	062
13 Eittings Association		D-55167B					L066	
AA Manuau Aanaahtu		D-643668		3D			L066	
45 Protective Housing		C-38275F						048B
46 Venting. Loading and Dischar	rge Valves	See Page	2					
47 Pressure Relief Devices		MIDLAND	A-:	2165			SRD	002012
48 Heater Systems (Int E		NONE						<i>(</i> 1)
49 Gauging Devices (Visual	Scale)	D-43835 S	SH.	2				
50 Bottom Outlet Valve		NONE						
51 Bottom Outlet Arrgt		D-55813-0					L066	080
52 Manway cover		D-243613	-			,,,,	L076	027
53 Calculations		D-644023		. 1 & 2B			L066	
54 Tank Qualification Drawing		D-41451B	-				L046	
REVISIONS:				APPLICAT	_		L. MCQUE	
		2 X				/		nd AAR requirements
Rev.A, July 31, 2007: Revised s	h. 2 drawing revisio	n level at line 53.		including Spec Safety Applian			N lorerchannel	and the DOT Railroad
				SIGNATUR				
				TITLE		ENGINE	ERING M	ÁNAGER
APPROVAL - AAR Tank Car	Committee		-				/ i .h	
		oproved_OCT (	15	2007				
	Date Ap	oproved JOT (	, 0	1001		.,		
CERTIFICATION						ature on behalf		
CERTIFICATION: The cars	enumerated below co	inform to the above a	ppro	oved descript	ion and to al	l applicable DC	OT and AAR	requirements
including Specifications. Regulation Construction will be furnished to t								ite of
Initials and Car Numbers:								
TILX 194310 -	194339			Name			Date	10-15-07
TICK 177 210	117-01			***************************************	7		77	
Form AAR 4-2 Revised 12/1/00	Im			Title	V	P Quality Ass	Trance	

AAR Number	L076034A	
Applicant's No	T06092	
Date	JULY 26, 2007	

	THE FOLLOWING DRAWINGS APPLY	<u>DRAWING</u> <u>NUMBER</u>	PRECEDENT APPLICATION NUMBER
55	15" FLUED NOZZLE	D-440083A	L046011
56	15" MULTI-HOUSING NOZZLE ASSEMBLY	D-440146B	L986056
57	15" MULTI-HOUSING NOZZLE COVER FLANGE	D-840171A	L056122
59.	BOTTOM OUTLET SADDLE ASSEMBLY	D-443885B	L056059
60.	6" SAFETY VALVE NOZZLE ASSEMBLY	B-27507K	L996141B
61	SAFETY VALVE ARRANGEMENT	D-55544-02	L066080

LINE 46VENTING, LOADING AND DISCHARGE VALVES THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT <u>D-55167</u>
<u>2" SCREWED END BALL VALVE</u> WATTS S-FBV-AAR
3" SCREWED END BALL VALVE  JAMESBURY 6FR-3600-MT
MIDLAND A-222-W FLANGED VACUUM RELIEF VALVE AAR E002010

Cars are constructed in accordance with all applicable DOT/TC and AAR requirements Car body structure meets the requirements of S-286-2002

	APPLICATION BY Sandy L. McQueen
	I certify that the foregoing conforms to all applicable DOT and
	AAR requirements, including Specifications, Regulations, Rules
	of Interchange and the DOF Railroad Safety Appliance
	Standards
	SIGNATURE
`	TITLE Engippering Manager
APPROVAL AAR Tank Car Committee	Date Approved OCT 0.5 2007
	(Signature) on behalf of Tank Car Committed
form AAR 4-2.1 Revised 12-1-00	Page 2 of 2

#### APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION ORDER DATE: OCTOBER 9, 2012 Page 1 of WELDED REPAIRS 1 APPROVAL REQUESTED OF: PRECEDENT 2 TYPE: CONSTRUCTION L136111 NON-PRECEDENT ALTERATION OTHER JULY 16, 2013 CONVERSION T12136XA 5 APPLICANTS NO. 6 APPLICANT: TRINITY TANK CAR, INC DOT 111A100W1 7 TANK SPECIFICATION: P.O. BOX 568887 DALLAS, TEXAS 75356-8887 DOT 111A100W1 8 STENCILED SPEC .: 9 REPORTING MARKS & CAR NUMBERS TILX 351987 to TILX 352096 10 NUMBER OF CARS 136 TILX 351716 to TILX 351740 11 Initial commodity SEE NOTES 12 Density, lb. per gallon 6.63 13 Full water capacity, gal. 14 Dome capacity or outage, gal. 31.808 per DOT 173.24b(a)(1) 15 Material type & grade - heads AAR TC128 Gr. B NORM 16 Material type & grade - shell AAR TC128 Gr. B NORM Material thickness - heads, in. 18 Material thickness - shell, in. 1/2 1/2 19 Lining type NONE 20 Inside diameter - center, in. 122-1/2 21 Inside diameter - end rings, in. 22 Head radius, main, in. (if not 2:1) 122-1/2 2:1 ELLIPSOIDAL Test pressure, psig 24 Insulation type 165 NONE 25 Insulation thickness, in. NONE 26 Thermal conductivity, Btu-in/hr-ft2-oF N.A. 27 Type and number of safety relief devices ONE VALVE 28 Safety device start-to-discharge, psig 75 29 Safety device flow cap'y., scfm req'd. 21,073 30 Safety device flow capacity, scfm, actual 27,000 31 Tank surface area, sq. ft. 1,806 32 Underframe or stub sill type STUB SILL---TRN 024 33 Center of gravity, loaded, in 88.7 34 Est. light weight, lb. 75,300 35 AAR clearance diagram С 36 Rail load limit, lb. 286,000 37 Truck capacity, tons 100 38 Head shields 1/2" thk A572-50 NOTES: Petroleum Crude Oil (PG I or II) and products authorized in DOT Part 173 for which there are no special commodity Orig. Cert. requirements and nonregulated commodities compatible Builder with this class of car. Date Former lading \* Safety Valve sized using equation 8.1.1.1a of Appendix A The following prior approvals apply: The Following Drawings Apply **Drawing Number** Drawing Number Application/Certificate No. 39 General Arrangement M-042-T12136XA 40 Arrangement, Tank T-025-80013 SH. 1 thru 5 L136091 41 Reinforced Openings T-030-80007 SH. 1, 2 & 3 L136091 42 Draft Sill Arrgt. U-075-80002 SH. 1B & 2B L116062B 43 Fittings Arrangement F-020-80039 SH. 1 & 2 44 Manway Assembly T-032-80015 L136091 45 Protective Housing F-050-80017 L126121 46 Venting, Loading and Discharge Valves **SEE PAGE 2** 47 Safety Relief Devices **KELSO JS75XH** PRD 079004 48 Heater Systems (Int. Ext. ) NONE 49 Gaging Device (Visual Scale) T-030-80007 SH. 3 L136091 50 Bottom Outlet Valve MIDLAND A-522 E122005 51 Bottom Outlet Arrangement V-014-80023B L136091 52 Manway cover F-021-80007D L136090 53 Calculations K-018-2003A L136014 54 Tank Qualification Drawing T-023-2000B **REVISIONS:** APPLICATION BY: SANDY L. MCQUEEN I certify that the foregoing conforms to all applicable DOT and AAR requirements including Specifications, Regulations, Rules of Interdiance, and the DOT Railroad Safety Appliance Standards SIGNATURE TITLE ENGINEERING MANAGER APPROVAL - AAR Tank Car Committee FEB 03 2014 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:

TILX 3:1987-3=2096 & 351716-351740

Name

Date 2/20/14

Form AAR 4-2 Revised 12/1/00

Title V. P. Quality

AAR Number	L136111
Applicant's No.	T12136XA
Date	JULY 16, 2013

	THE FOLLOWING DRAWINGS APPLY	DRAWING NUMBER	PRECEDENT APPLICATION NO.
56 57 58	. 20" NOZZLE ASSEMBLY . FITTINGS COVER PLATE . TANK HEAD SHIELD ASSY – A & B ENDS . APPLICATION OF GPS UNIT . FITTINGS COVER ASSEMBLY	T-032-80006C F-300-80017A T-034-80001D C-011-80000A F-070-80002A	L126097 L126122A L136014A L126000 L136014A
	LINE 46 VENTING, LOADING AND DI THESE ARE THE VALVES REFERENCED		F-020-80039
	2" FLANGED BALL VALVE APOLLO CA- 87A	AAR E119024	

The tank cars of this application are constructed in accordance with all applicable DOT/TC and AAR requirements, including AAR Standard S-286-2006 and MSRP C-III, Section 2.5 and 2.7.

MIDLAND A-222-W-5 VACUUM RELIEF VALVE ----- AAR E112001

3" FLANGED BALL VALVE APOLLO CA-87A -----

	APPLICATION BY Sandy L. McQueen
	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 Engineering Manager
APPROVAL AAR Tank Car Committee	FEB 03 2014 Date Approved
	(Signature) on behalf of Tank Car Committee
form AAR 4-2.1 Revised 12/1/00	Page 2 of 2

	ORDER D	ATE: OCTOBER 9,	20	12			Page 1 of 2
1 APPROVAL REQUESTED OF:	PRECEDENT	2 TYPE CONSTRUCTION	-	WELDED REPAIR	RS	3 AAR NO.	L126114A
	NON-PRECEDENT	ALTERATION	ĺ	OTHER		4 DATE:	NOVEMBER 29, 2012
		CONVERSION				5 APPLICANTS NO.	T12145
6 APPLICANT: TRINITY	TANK CAR INC.					7 TANK SPECIFICATION	
P.O. BOX		AS, TEXAS 75356-8	388	7		8 STENCILED SPEC.:	
9 REPORTING MARKS & CAR NUMB		67 to TILX 351876		•		0 NUMBER OF CARS	
3 REPORTING MARKS & CAR NUMB						U NUMBER OF CARS	330
44 1-16-1		96 to TILX 352316		D 11 11			
11 Initial commodity				Density, lb.			6.63
13 Full water capacity,				Dome capa			per DOT 173.24b(a)(1)
15 Material type & grad		C128 Gr. B NORM	16	Material typ	e & grade	- shell	AAR TC128 Gr. B NORM
17 Material thickness -	heads, in. 1/2		18	Material thic	kness - sh	ell, in.	1/2
19 Lining type	NONE		20	Inside diam	eter - cent	er, in.	122-1/2
21 Inside diameter - en	d rings, in. 122-1/	/2	22	Head radius	s, main, in.	(if not 2:1)	2:1 ELLIPSOIDAL
23 Test pressure, psig	165			Insulation ty		•	NONE
25 Insulation thickness,						Btu-in/hr-ft-°F	
27 Type and number of		AND DESCRIPTION OF THE PARTY OF				discharge, psi	
29 Safety device flow c		26,879	_				0
						acity, scfm, a	
31 Tank surface area, s		1,806	_	Underframe		і туре	STUB SILLTRN 024
33 Center of gravity, loa		88.7		Est. light we			75,300
35 AAR clearance diag		С		Rail load lim			286,000
37 Truck capacity, tons		100	38	Head shield	ls		1/2" thk A572-50
NOTES: Petroleum Ci							
in DOT Part	173 for which there are r	no special commodity	/	Or	rig. Cert.		
requirements	and nonregulated comi	modities compatible		Bu	uilder		
with this clas-	s of car.				ate		
				Fo	rmer ladin	g	
* Safety Valve sized	using equation 8.1.1.1a	of Appendix A		7			
					TI	ne following pr	ior approvals apply:
The Following	Drawings Apply	Drawing N	um	ber		g Number	Application/Certificate No.
20 Canami Amananana		M 042 T1214			Diami	g Italiiboi	Application/ Certificate 140.
39 General Arrangement		M-042-T1214	_	40 46 50			14400744
40 Arrangement, Tank		T-025-80001					L116071A
41 Reinforced Openings		T-030-80003					L126108
42 Draft Sill Arrgt.		U-075-80010					L126108
43 Fittings Arrangement	***************************************	F-020-80021		1 & 2			L126111 Pending
44 Manway Assembly		T-032-80004A	1				L116062B
45 Protective Housing	•	F-050-80012A	1				L126108
46 Venting, Loading and I		SEE PAGE 2					
47 O-f-t - D-li-f D-ui	***************************************	MAIDLAND A	16	5			PRD 112003
48 Heater Systems (Int	□Evt □\	NONE					111211200
49 Gaging Device	Oficial Scale)	T-030-80003	<u>2H</u>	2Δ			L126108
	(Visual Scale)						
50 Bottom Outlet Valve		JAMESBURY	4	ake 12			E079011
51 Bottom Outlet Arrange	ment	V-014-80017					L126108
52 Manway cover		F-021-80007					L126108
53 Calculations		K-018-2003		7			L126023B
54 Tank Qualification Dra	wing	T-023-2000					L126023B
REVISIONS:				APPLICAT	ION BY:	SAND	Y L. MCQUEEN
				I certify that the	e foregoing co	nforms to all appli	gable DOT and AAR regulirements
Rev. A. Jan. 31, 2013:	Revised lines 9 & 10 to	o increase car gtv.		including Speci	ifications, Rec	ulation Bules of	International the TOT Pailman
				Safety Applian			
		v		SIGNATUR			
				TITLE		ENGINEER	RING MANAGER
APPROVAL - AAR Tan	k Car Committee					<b>n</b>	(
ALLINOVAL - WAIT TOIL		TTD.					
	Date Δ	pprovE B 19 20	77	7			
	Date		4	J	Sice	nature on hehalf	f of Tank Car Complittee
CEDTIEICATION: The	cars enumerated below co	onform to the chaus		ad depariation			
						• • • • • • • • • • • • • • • • • • • •	
	legulations, Rules of Interch hed to the owner and others						
Initials and Car Numbers:	ica to the owner and others	as required by 48 CFF					
	1	0 1		Nan			∠Date 3-1-13
Tux 351767-3518	3764 572076-	222316		14011	_		Date -
Form AAR 4-2 Revised 12		×		Title	v	P Quality As	HITPANCO
I OIIII AAR 4-2 REVISED 12	, 1,00			, ille _		- Amenich W25	and the

AAR Number	L126114A
Applicant's No.	T12145
Date	November 29, 2012

THE FOLLOWING DRAWINGS APPLY	DRAWING NUMBER	PRECEDENT APPLICATION NO.
<ul> <li>55. 20" NOZZLE ASSEMBLY</li> <li>56. FITTINGS COVER PLATE</li> <li>57. TANK HEAD SHIELD ASSY – A &amp; B ENDS</li> <li>58. APPLICATION OF GPS UNIT</li> </ul>	T-032-80006C F-300-80002 T-034-80001B C-011-80000A	L126097 L116022A L116062B L126111 Pending

<u>LINE 46 --- VENTING, LOADING AND DISCHARGE VALVES</u>
THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT <u>F-020-80021</u>

2" FLANGED BALL VALVE

JAMESBURY 9150 ------AAR E089013

3" FLANGED BALL VALVE

JAMESBURY 9150 ------AAR E089013

MIDLAND A-220-W VACUUM RELIEF VALVE ----- AAR E112001

The tank cars of this application are constructed in accordance with all applicable DOT/TC and AAR requirements, including AAR Standard S-286-2006 and MSRP C-III, Section 2.5 and 2.7.

,	AAR requirement	Sandy L. McQueen foregoing conforms to all applicable DOT and nts, including Specifications, Regulations, Rules nd the DOT Rathoad Safety Appliance
	Standards. SIGNATURE TITLE	
APPROVAL AAR Tank Car Committee	FEB 19 2013	(Signature) on behalf of Tank Car Committee
Form AAR 4-2.1 Revised 12/1/00		Page 2 of 2

	ORDER [	DATE: OCTOBER 9	, 20	012		Page 1 of2
1	APPROVAL REQUESTED OF: PRECEDENT	2 TYPE: CONSTRUCTION	[	WELDED REPAI	rs 3 aar no	L146101
	✓ NON-PRECEDENT	ALTERATION	[	OTHER	4 DATE:	AUGUST 14, 2014
		CONVERSION			5 APPLICANT'S NO	
6	APPLICANT: TRINITY TANK CAR, INC.				7 TANK SPECIFICA	
		AS, TEXAS 75356-		37	8 STENCILED SPE	
9	REPORTING MARKS & CAR NUMBERS TILX 3518	367 to TILX 351874			10 NUMBER OF CAI	Rs8
7.71	T					
		NOTES		Density, lb.		6.63
	Full water capacity, gal. 31,80				city or outage, gal.	per DOT 173.24b(a)(1)
		C128 Gr. B NORM			e & grade - shell	AAR TC128 Gr. B NORM
	Material thickness - heads, in. 1/2 Lining type NON		_		kness - shell, in.	1/2 122-1/2
	Lining type NON Inside diameter - end rings, in. 122-1		_		eter - center, in.	2:1 ELLIPSOIDAL
	Test pressure, psig 165	12		Insulation ty	, main, in. (if not 2:1)	NONE
	Insulation thickness, in. NON				nductivity, Btu-in/hr-ft²-°	
	Type and number of safety relief devices	ONE VALVE			ce start-to-discharge, ps	
	Safety device flow cap'y., scfm req'd.	26,879			ce flow capacity, scfm, a	
	Tank surface area, sq. ft.	1,806	_		or stub sill type	STUB SILLTRN 024
	Center of gravity, loaded, in.	88.7		Est. light we		75,300
	AAR clearance diagram	C	_	Rail load lim		286,000
	Truck capacity, tons	100		Head shield		1/2" thk A572-50
	OTES: Petroleum Crude Oil (PG I or II) and					
	in DOT Part 173 for which there are			Oı	ig. Cert.	
	requirements and nonregulated com-	nodities compatible		Bu	ıilder	
	with this class of car.				ate	
	* Safety Valve sized using equation 8.1.1.1a	of Appondix A		<u>F0</u>	ormer lading	
_	Salety valve sized using equation 6.1.1.1a	To Appendix A	-		7° - 6-111	
	The Following Drawings Apply	Drawing N	umb	per		prior approvals apply:
		N 040 T4044			Drawing Number	Application/Certificate No.
	General Arrangement	M-042-T1214		40 Abrus EC		
40	Arrangement, Tank	T-025-80012 T-030-80007				1.1260054
	Reinforced Openings	U-075-80010			<u> </u>	L136095A L126108A
42 Draft Sill Arrgt. U-075-80010 43 Fittings Arrangement F-020-80061						L120100A
	Manuay Assambly	T-020-80001		. IA a ZA		L136095A
	***************************************	1 002 00010				£100000/1
	Protective Housing	F-050-800171	_	-		1 146001
	Protective Housing	F-050-80017I				L146001
47	Venting, Loading and Discharge Valves	SEE PAGE 2				
	Venting, Loading and Discharge Valves  Safety Relief Devices	SEE PAGE 2				PRD 079002
48	Venting, Loading and Discharge Valves	SEE PAGE 2 KELSO JS75	хн	. 3F		
48 49	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int. □ Ext. □)	SEE PAGE 2 KELSO JS75 NONE	XH SH	The second secon		PRD 079002
48 49 50	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int. ☐ Ext. ☐ ) Gaging Device (Visual Scale)	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027	XH SH 522	The second secon		PRD 079002 L136095A E122005 L136090
48 49 50 51	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007	XH SH. 522	The second secon		PRD 079002 L136095A E122005 L136090 L136090
48 49 50 51 52 53	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH. 522	The second secon		PRD 079002 L136095A E122005 L136090 L136090 L136091
48 49 50 51 52 53	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007	SH. 522	The second secon		PRD 079002  L136095A  E122005  L136090  L136090  L136091  L136111
48 49 50 51 52 53 54	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH. 522	The second secon	ON BY: SAN	PRD 079002 L136095A E122005 L136090 L136090 L136091
48 49 50 51 52 53 54	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations Tank Qualification Drawing	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH. 522	APPLICAT	foregoing conforms to all app	PRD 079002  L136095A  E122005  L136090  L136090  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements
48 49 50 51 52 53 54	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations Tank Qualification Drawing	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH. 522	APPLICAT I certify that the including Spec	e foregoing conforms to all applications, Regulations, Rules	PRD 079002  L136095A  E122005  L136090  L136090  L136091  L136111  DY L. MCQUEEN
48 49 50 51 52 53 54	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations Tank Qualification Drawing	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH. 522	APPLICAT I certify that the including Spec Safety Appliane	e foregoing conforms to all applifications, Regulations Aules constants	PRD 079002  L136095A  E122005  L136090  L136090  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements
48 49 50 51 52 53 54	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations Tank Qualification Drawing	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH. 522	APPLICATION I certify that the including Spec Safety Appliant SIGNATUR	e foregoing conforms to all applications, Regulations, Fulles ce Standards.	PRD 079002  L136095A  E122005  L136090  L136090  L136091  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements of Laterchance, and the DOT Railroad
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations Tank Qualification Drawing	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B	SH 522	APPLICATE I certify that the including Spec Safety Appliane SIGNATUR TITLE	e foregoing conforms to all applications, Regulations, Fulles ce Standards.	PRD 079002  L136095A  E122005  L136090  L136090  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves Safety Relief Devices Heater Systems (Int.  Ext. ) Gaging Device (Visual Scale) Bottom Outlet Valve Bottom Outlet Arrangement Manway cover Calculations Tank Qualification Drawing	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B	SH 522	APPLICATE I certify that the including Spec Safety Appliane SIGNATUR TITLE	e foregoing conforms to all applications, Regulations, Fulles ce Standards.	PRD 079002  L136095A  E122005  L136090  L136090  L136091  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements of Laterchance, and the DOT Railroad
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B	SH 522	APPLICATE I certify that the including Spec Safety Appliane SIGNATUR TITLE	e foregoing conforms to all applications, Regulations, Fulles ce Standards.	PRD 079002  L136095A  E122005  L136090  L136090  L136091  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements of Laterchance, and the DOT Railroad
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B	SH 522	APPLICATE I certify that the including Spec Safety Appliane SIGNATUR TITLE	e foregoing conforms to all applifications, Regulations, Rules cee Standards.  E  ENGINE	PRD 079002  L136095A  E122005  L136090  L136090  L136091  L136111  DY L. MCQUEEN  Dicable DOT and AAR requirements of Laterchance, and the DOT Railroad
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B  SEP 2 9 20  Approved  Onform to the above app	SH 522	APPLICAT I certify that the including Spec Safety Appliane SIGNATUR TITLE	e foregoing conforms to all applifications, Regulations, Rulea ce Standards.  E ENGINES  Signature on behavior and to all applicable DOT	PRD 079002  L136095A E122005 L136090 L136090 L136091 L136111 DY L. MCQUEEN Dilicable DOT and AAR requirements of laterchance, and the DOT Railroad  ERING MANAGER  alf of Tank Car Committee and AAR requirements
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B  SEP 2 9 20 conform to the above apprange and the DOT Rai	SH. 522	APPLICAT I certify that the including Spec Safety Appliane SIGNATUR TITLE	s foregoing conforms to all applications, Regulations, Rules cee Standards.  E ENGINES  Signature on behavior and to all applicable DOT ince Standards. Copy of the standards.	PRD 079002  L136095A E122005 L136090 L136090 L136091 L136111 DY L. MCQUEEN Dilicable DOT and AAR requirements of Laterchance, and the DOT Railroad  ERING MANAGER  Alf of Tank Car Committee and AAR requirements his Certificate of
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B  SEP 2 9 20 conform to the above apprange and the DOT Rai	SH. 522	APPLICAT I certify that the including Spec Safety Appliane SIGNATUR TITLE	s foregoing conforms to all applications, Regulations, Rules cee Standards.  E ENGINES  Signature on behavior and to all applicable DOT ince Standards. Copy of the standards.	PRD 079002  L136095A E122005 L136090 L136090 L136091 L136111 DY L. MCQUEEN Dilicable DOT and AAR requirements of Laterchance, and the DOT Railroad  ERING MANAGER  Alf of Tank Car Committee and AAR requirements his Certificate of
48 49 50 51 52 53 54 RE	Venting, Loading and Discharge Valves  Safety Relief Devices Heater Systems (Int.	SEE PAGE 2 KELSO JS75 NONE T-030-80007 MIDLAND A- V-014-80027 F-021-80007 K-018-2003B T-023-2000B  SEP 2 9 20 conform to the above apprange and the DOT Rai	SH. 522	APPLICAT I certify that the including Spec Safety Appliane SIGNATUR TITLE	s foregoing conforms to all applications, Regulations, Rules cee Standards.  E ENGINES  Signature on behavior and to all applicable DOT ince Standards. Copy of the standards.	PRD 079002  L136095A E122005 L136090 L136090 L136091 L136111 DY L. MCQUEEN Dilicable DOT and AAR requirements of Laterchance, and the DOT Railroad  ERING MANAGER  Alf of Tank Car Committee and AAR requirements his Certificate of

Form AAR 4-2 Revised 12/1/00

AAR Number	L146101
Applicant's No.	T12145C
Date	AUGUST 14, 2014

THE FOLLOWING DRAWINGS APPLY	DRAWING NUMBER	PRECEDENT APPLICATION NO.
<ul> <li>55. 20" NOZZLE ASSEMBLY</li> <li>56. FITTINGS COVER PLATE</li> <li>57. TANK HEAD SHIELD ASSY – A &amp; B ENDS</li> <li>58. APPLICATION OF GPS UNIT</li> </ul>	T-032-80006F F-070-80002A T-034-80001E C-011-80002	L146001 L136014A N146003 L136031

LINE 46 --- VENTING, LOADING AND DISCHARGE VALVES THESE ARE THE VALVES REFERENCED ON FITTINGS ARRANGEMENT F-020-80061

2" FLANGED BALL VALVE

JAMESBURY 9150 ----- AAR E089013

3<u>" FLANGED BALL VALVE</u>
JAMESBURY 9150 ------ <u>AAR E089013</u>

MIDLAND A-220-W VACUUM RELIEF VALVE ----- AAR E112001

The tank cars of this application are constructed in accordance with all applicable DOT/TC and AAR requirements, including AAR Standard S-286-2006 and MSRP C-III, Section 2.5 and 2.7.

	APPLICATIO	ON BY Sandy L. McQueen
	I certify that the	foregoing conforms to all applicable DOT and
	AAR requireme	nts, including Specifications, Regulations, Rules
	of Interchange a	and the DOT Railroad Safety Appliance
	Standards.	
	SIGNATURE	
	TITLE	Engineering Manager
	0.00	
PPROVAL AAR Tank Car Committee	Date Approved 9 2014	
		(Signature) on behalf of Tank Car Committee
orm AAR 4-2 1 Revised 12/1/00		Page 2 of 2

1 APPROVAL REQUESTED OF: Non-Precedent

2 TYPE: Construction

3 AAR NO: L176070 4 DATE: 12/28/2017

4.1 ORDER DATE: 10/17/2017 5 APPLICANT'S NO: T17057

7 TANK SPECIFICATION: DOT-117A100W 8 STENCILED SPEC: DOT-117J100W 10 NUMBER OF CARS: 130

6 APPLICANT: TRINITY TANK CAR, INC. P.O. BOX 568887 DALLAS, TX 75356-8887

9 REPORTING MARKS AND CAR NUMBERS: TILX 363330-363459

11	Initial Commodity	ETHANOL	12	Density (LB Per Gallon)	6.58
13	Full Water Capacity (Gallons)	30300	14	Dome Capacity or Outage (Gallons)	per DOT 173.24b(a)(1)
15	Material Type / Grade Heads	AAR TC-128, Gr. B	15.1	Tank Head Material Normalized	Yes
15.2	Tank Head Spliced	No	15.3	Charpy Requirements	
16	Material Type and Grade Shell	AAR TC-128, Gr. B	16.1	Tank Shell Material Normalized	Yes
16.2	Charpy Requirements		17	Material Thickness Heads (Inches)	0.5625
18	Material Thickness Shell (Inches)	0.5625	19	Lining Type	None
20	Inside Diameter - Center (Inches)	119.375	21	Inside Diameter - End Rings (Inches)	119.375
22	Head Radius, Main (Inches if not 2:1)	2:1	23	Test Pressure (PSI)	165
24	Insulation Type	CF-Ceramic Fiber	25	Insulation Thickness (Inches)	0.5
26	Thermal Conductivity (BTU – in/hr. –ft sq. – degree F)	0.238	27	Type of Safety Relief Devices	Valve
27.1	Number of Safety Relief Devices	1	28	Pressure Relief Device Start-to-Discharge (PSI)	75
29	Pressure Relief Device Flow Capacity (CFM Required)	2302	30	Pressure Relief Device Flow Capacity (CFM Actual)	31676
31	Tank Surface Area (Sq Ft)	1770	32	Underframe or Stub Sill Type	TRN024-TRN024 Stub Sill Design
33	Center of Gravity, Loaded (Inches)	92.0	34	Estimated Light Weight (lb)	90500
35	AAR Clearance Diagram	С	38	Rail Load Limit (lb)	286000
37	Truck Capacity (Tons)	100	38	Head Shield Type	F-Full Shield
38.1	Head Shield Thickness (inches)	0.5			

**Notes:** Other Related Drawings are attached which should be verified. Other Related Drawings are attached which should be verified.

Original Certificate:

Builder: Date:

Former lading:

The Following Drawings Apply:

39 General Arrangement

40 Tank Arrangement

Reinforced Openings, Including Calculations 41

42 Anchorage, Including Calculations

43 Fittings Arrangement

44 Manway Assembly

45 Protective Housing

Venting, Loading, and Discharge Valves 46

47 Pressure Relief Devices

48 Heater Systems (ext.)

Gauging Devices

50 **Bottom Outlet Valve** 

51 Repairs

52 Manway Cover

53 Calculations

54 Tank Qualification Drawing

	The Following Prior Approvals Apply:			
Drawing Number	Drawing Number	Application/Certificate No		
M-042-T17057rA				
T-025-80085 SH 1, 2, 3, 4 & 5				
T-030-80017 SH. 1C, 2C & 3C				
U-075-80026 SH. 1A & 2A	,	L166091		
F-020-80158 SH. 1 & 2				
T-032-80026D	7	L176013		
F-050-80030B		L146089		
JAMESBURY 2" 9150		AAR E089013		
FORT VALE 0R4	7	PRD 139512		
NONE				
T-030-80017 SH. 2C	·			
V-014-80272 SH. 1 & 2				
F-021-80066				
K-018-2006E				
T-023-80003D		L166049		

#### **REVISIONS:**

**APPLICATION BY: Samuel Coates** 

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:** Samuel Coates TITLE: Project Engineer

APPROVAL -	AAR	Tank Car	Committee
------------	-----	----------	-----------

Date Approved 04/23/2018 Kenneth Dorsey

(signature) on behalf of the Tank Car Committee

#### APPROVAL COMMENTS:

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 care are placed in service

Initials and Car Numbers:

TILX 363330-363459

Name: Dean Matzo Date: 08/10/2018

Title: Vice President Quality

AAR No. L176070 Applicant's No. T17057 Date

12/28/2017

- 8 THE TANK CARS OF THIS APPLICATION ARE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE DOT/TC AND AAR REQUIREMENTS, INCLUDING AAR STANDARD S-286-2006 AND MSRP C-III , SECTIONS 2.5 AND 2.7.
- 11 AND PRODUCTS AUTHORIZED IN DOT PART 173 FOR WHICH THERE ARE NO SPECIAL COMMODITY REQUIREMENTS AND NONREGULATED COMMODITIES COMPATIBLE WITH THIS CLASS OF CAR.
- 29 SAFETY VALVE SIZED USING EQUATION A7.1.1.1A.
- **38.1** A572-50 Material
- **50** JAMESBURY 9RET ----- E172109
- 52 Transquip Fabricated Manway Cover TRQ-2016-1222 ---- E172126

#### Other Related Drawings:

B-23650.pdf

JACKET ANCHOR ---- L176069

F-070-80033.pdf

FITTINGS COVER ASSEMBLY ----- L166100

T-032-80025B.pdf

20" M-H NOZZLE ----- L176050

APPROVAL - AAR Tank Car Committee

Data Approved 04/23/2018 Kenneth Dorsey

1 APPROVAL REQUESTED OF: Non-Precedent

2 TYPE: Construction

3 AAR NO: L186065 4 DATE: 09/17/2018

4.1 ORDER DATE: 05/25/2018 5 APPLICANT'S NO: T18058

7 TANK SPECIFICATION: DOT-117A100W 8 STENCILED SPEC: DOT-117J100W 10 NUMBER OF CARS: 50

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

9 REPORTING MARKS AND CAR NUMBERS: GATX 225795-225844

11	Initial Commodity	Ethanol Solution, NEC (4912324)	12	Density (LB Per Gallon)	6.58
13	Full Water Capacity (Gallons)	30300	14	Dome Capacity or Outage (Gallons)	per DOT 173.24b(a)(1)
15	Material Type / Grade Heads	AAR TC-128, Gr. B	15.1	Tank Head Material Normalized	Yes
15.2	Tank Head Spliced	No	15.3	Charpy Requirements	
16	Material Type and Grade Shell	AAR TC-128, Gr. B	16.1	Tank Shell Material Normalized	Yes
16.2	Charpy Requirements		17	Material Thickness Heads (Inches)	.5625
18	Material Thickness Shell (Inches)	.5625	19	Lining Type	None
20	Inside Diameter - Center (Inches)	119.375	21	Inside Diameter - End Rings (Inches)	119.375
22	Head Radius, Main (Inches if not 2:1)	2:1	23	Test Pressure (PSI)	165
24	Insulation Type	CF-Ceramic Fiber	25	Insulation Thickness (Inches)	.5
28	Thermal Conductivity (BTU – in/hr. –ft sq. – degree F)	.238	27	Type of Safety Relief Devices	Valve
27.1	Number of Safety Relief Devices	1	28	Pressure Relief Device Start-to-Discharge (PSI)	75
29	Pressure Relief Device Flow Capacity (CFM Required)	2302	30	Pressure Relief Device Flow Capacity (CFM Actual)	30061
31	Tank Surface Area (Sq Ft)	1770	32	Underframe or Stub Sill Type	TRN024-TRN024 Stub Sill Design
33	Center of Gravity, Loaded (Inches)	92	34	Estimated Light Weight (lb)	90500
35	AAR Clearance Diagram	С	36	Rail Load Limit (lb)	286000
37	Truck Capacity (Tons)	100	38	Head Shield Type	F-Full Shield
38.1	Head Shield Thickness (inches)	.5			

Notes: Other Related Drawings are attached which should be verified.

Original Certificate:

Builder: Date:

Former lading:

#### The Following Drawings Apply:

- 39 General Arrangement
- 40 Tank Arrangement
- 41 Reinforced Openings, Including Calculations
- Anchorage, Including Calculations 42
- Fittings Arrangement 43
- Manway Assembly
- 45 Protective Housing
- Venting, Loading, and Discharge Valves 48
- 47 Pressure Relief Devices 48 Heater Systems (ext.)
- Gauging Devices 50 **Bottom Outlet Valve**
- 51 Repairs
- 52 Manway Cover
- 53 Calculations
- 54 Tank Qualification Drawing

	The Following Prior Approvals Apply:		
Drawing Number	Drawing Number	Application/Certificate No	
M-042-T18058		7	
T-025-80077 SH. 1D, 2D, 3D, 4D & 5D			
T-030-80062 SH. 1C, 2C & 3C			
U-075-80026 SH. 1A & 2A		L166091	
F-020-80170 SH. 1 & 2			
T-032-80036C		L166078	
F-050-80030C		L186059	
SEE PAGE 2			
KELSO JS75XHS		PRD 079004	
NONE			
T-030-80062 SH. 2C			
V-014-80300 SH. 1 & 2			
F-021-80080			
K-018-2006F		L186055	
T-023-80003D		L166049	

#### REVISIONS:

**APPLICATION BY:** Samuel Coates

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:** Samuel Coates TITLE: Project Engineer

APPROVAL -	AAR 1	Tank Ca	ar Committee

Date Approved 10/30/2018 Kenneth Dorsey (signature) on behalf of the Tank Car Committee

#### APPROVAL COMMENTS:

CERTIFICATION: The care 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:

GATX 225795-225844

Name: Dean Matzo Date: 11/27/2018 Title: Vice President Quality

AAR No. L186065 Applicant's No. T18058 Date

09/17/2018

- 8 The tank cars of this application are constructed in accordance with all applicable DOT/TC and AAR requirements, including AAR Standard S-286-2006 and MSRP C-III, Sections 2.5 & 2.7.
- 11 and products authorized in DOT part 173 for which there are no special commodity requirements and nonregulated commodities compatible with this class of car.
- 29 SAFETY VALVE SIZED USING EQUATION 7.1.1.1a OF APPENDIX A.
- 38.1 A572-50 MATERIAL
- 48 THESE VALVES ARE REFERENCED ON ARRANGEMENTS F-020-80170 2" FLANGED BALL VALVE JAMESBURY 9150 ----- AAR E172100
- **50** 4" FLANGED BOTTOM OUTLET VALVE JAMESBURY 9RET ---- E172109

#### Other Related Drawings:

B-23650.pdf

JACKET ANCHOR ---- L176069

F-070-80035.pdf

20" M-H COVER PLATE ---- L166049

T-032-80025B.pdf

20" M-H NOZZLE ASSEMBLY ---- L176050

APPROVAL - AAR Tank Car Committee

Date Approved 10/30/2018 Kenneth Dorsey

(signature) on behalf of the Tank Car Committee