

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

1 APPROVAL REQUESTED OF: Non-Precedent

2 TYPE: Construction

3 AAR NO: L154003

4 DATE: 03/03/2015

4.1 ORDER DATE: 08/18/2014

5 APPLICANT'S NO: R50715

7 TANK SPECIFICATION: DOT-111A100W1

8 STENCILED SPEC: DOT-111A100W1

10 NUMBER OF CARS: 175

6 APPLICANT: GUNDERSON, 4350 NW FRONT AVENUE, PORTLAND, OREGON 97210

9 REPORTING MARKS AND CAR NUMBERS: _____

11	Initial Commodity	See Notes	12	Density (LB Per Gallon)	6.88
13	Full Water Capacity (Gallons)	28433	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)	
18	Material Thickness Shell (Inches)		19	Lining Type	None
20	Inside Diameter - Center (Inches)		21	Inside Diameter - End Rings (Inches)	
22	Head Radius, Main (Inches if not 2:1)	2:1	23	Test Pressure (PSI)	165
24	Insulation Type	FC-Fiberglass & Ceramic Fiber	25	Insulation Thickness (Inches)	3.5
26	Thermal Conductivity (BTU – in/hr. –ft sq. – degree F)	0.28	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)	361	30	Pressure Relief Device Flow Capacity (CFM Actual)	30061
31	Tank Surface Area (Sq Ft)	1688	32	Underframe or Stub Sill Type	GUN001-GUN001 Stub Sill Design
33	Center of Gravity, Loaded (Inches)	85.6	34	Estimated Light Weight (lb)	94,400
35	AAR Clearance Diagram	C	36	Rail Load Limit (lb)	286000
37	Truck Capacity (Tons)	100	38	Head Shield Type	F-Full Shield
38.1	Head Shield Thickness (inches)	0.50			

Notes: Initial commodity to be Petroleum Crude Oil (PG I & II UN1267) and products authorized by DOT Part 173 for which there are no special commodity requirements and non-regulated commodities compatible with this class of car. 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
- 42** Anchorage, Including Calculations
- 43** Fittings Arrangement
- 44** Manway Assembly
- 45** Protective Housing
- 46** Venting, Loading, and Discharge Valves
- 47** Pressure Relief Devices
- 48** Heater Systems
- 49** Gauging Devices
- 50** Bottom Outlet Valve
- 51** Repairs
- 52** Manway Cover
- 53** Calculations
- 54** Tank Qualification Drawing

Drawing Number	The Following Prior Approvals Apply:	
	Drawing Number	Application/Certificate No
A01978-01		
A10003332		
A10001856 A,A10002565,see 53. Calculations		
See 53. Calculations		
A10003330		
A10003074		
See 41. Reinforcement Openings,see 53. Calculations		
A16178-01,A16179-01,A16181-01,A16269-01,see 43. Fittings Arrangement,see 47. Pressure Relief Devices,see 50. Bottom Outlet Valve		
A15499-01 A		
A10003333		
See 40. Tank Arrangement		
A10003331 A		
None		
McKENZIE 508893 C		
A10003467,R50715 CALCS REV B		
A10002549 A		

REVISIONS:

APPLICATION BY: Brad Thomas

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: Brad Thomas

TITLE: Senior Mechanical Engineer

APPROVAL - AAR Tank Car Committee

Date Approved 03/09/2015 Kenneth Dorsey

(signature) on behalf of the 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:

CBTX 718425-718599

Name: Rodolfo Aguirre

Date: 03/09/2015

Title: QA Manager

AAR No. L154003
Applicant's No. R50715
Date 03/03/2015

4.1 Order Date Line 4.1: 08/18/2014

12 DENSITY OPTIMIZATION AT 2% OUTAGE (27,832 GALLONS)

36 NOTES SPECIFIC TO 286,000 GROSS RAIL LOAD

The car is designed and built in accordance with AAR Standard S-286-2002. The trucks are in conformance with AAR Specification M-976-2002. The car is in conformance with M-1002 Chapter 2 Section 2.5 and M-1002 Chapter 2 Section 2.7

46 L154003 (R50715) - 28,400 GALLON TANK CAR FITTINGS AAR APPROVAL NUMBERS

1. PRESSURE RELIEF VALVE - KELSO JS75XHS-316-09-C-K CS5350 75 PSI (PRD-079004)
2. 4" BOTTOM OUTLET VALVE - JAMESBURY 4-9RET4-36HB-XTA-FO (E-079011)
3. 3" UNLOADING BALL VALVE - MCKENZIE 3-UFR-3636TT-EXT2 (E-107011)
4. 2" AIR INLET BALL VALVE - MCKENZIE 2-UFR-3636TT (E-107011)
5. 1" ADDITIONAL VALVE - MCKENZIE 1-UFR-3636TT (E-107011)
6. VACUUM RELIEF VALVE - MCKENZIE 509986 - VRV-300C-S6-F7 CS4273 (E-087019)
7. MANWAY COVER - MCKENZIE 508893 REV C (E-137015)

53 ALL RED RUBBER (TEMPORARY) GASKETS TO BE CHANGED OUT BY CIT SPECIFIED THIRD PARTY LINING FACILITY BEFORE INITIAL LOAD. FINAL GASKETS TO INCLUDE GARLOCK GYLON 3545 FOR FLANGE/BOTTOM OUTLET CAP GASKETS AND VSP CYCLETIGHT-7AE FOR MANWAY GASKET.

Other Related Drawings:

A10003495.pdf

JACKET ARRANGEMENT

A10003522 A.PDF

TORQUE AND GASKET DRAWING USED BY THIRD PARTY LINING FACILITY FOR FINAL GASKET APPLICATION AND TORQUE VALUES. SEE 53. FOR TORQUE CALCULATIONS.