TRINITY INDUSTRIES, INC.
BUSINESS UNIT # 296

DOCUMENT TYPE: Controlled Form List
TITLE: Piping Test Report

Document No.: **QAF-902-296**
Revision #: **00**
Revision Date: **4/5/2017**
Revised By: **Howard Abell**
Approved By: **Howard Abell**

PIPING TEST REPORT

Customer / Contract	**E Squared**	/	**96274**
Vessel Name	E2MS 308		
Hull Number	***5279***		
Official Number	121163		
KEEL Date / COI Year	10/9/2017	/	2017

TESTING INFO

System	Method of Test	PSI or OK	Date	Witness By
Cargo Pipe	**HYDRO**	**200**	**11/22/2017**	GB
Pump Well	**AIR**	**19**	**11/22/2017**	GB
Fuel Oil Piping	**AIR**	**90**	**11/22/2017**	GB
Hot Oil Piping				
Steam Piping				
Air Piping	**HYDRO**	**200**	**11/22/2017**	GB
Stripping Piping	**HYDRO**	**200**	**11/22/2017**	GB
Hydraulic Piping				
Cargo Piping Relief Valve	**HYDRO**	**125**	**11/22/2017**	GB
Vapor Piping Relief Valve	**AIR**	**1.5**	**11/22/2017**	GB
Steam Piping Relef Valve				
Air Piping Relief Valve	**HYDRO**	**125**	**11/22/2017**	GB
Fuel Tank	**HYDRO**	**5**	**11/22/2017**	GB
Slop Tank	**HYDRO**	**5**	**11/22/2017**	GB
Cargo Pressure Gauge	**AIR**	**120**	**11/22/2017**	GB
Vapor Pressure Gauge	**AIR**	**3**	**11/22/2017**	GB
Air Pressure Gauge				
Hydraulic Pressure Gauge				
Emergency Shutdown	**OPERATIONAL**	**OK**	**11/22/2017**	GB
Pump Operational Test	**OPERATIONAL**	**OK**	**11/22/2017**	GB
Heater Operational Test				
Stripping Operational Test	**OPERATIONAL**	**OK**	**11/22/2017**	GB
Hydraulic Operational Test				

If a system is not applicable, leave that line blank

	Initial	Print	Signature
QA WITNESS	GB	GERALD BROWN	
QA WITNESS			

Cargo piping and test report Reference 33cfr 156.170.

TRINITY INDUSTRIES, INC.
BUSINESS UNIT # 296

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Approved By: **Howard Abell**

DOCUMENT TYPE: Controlled Form List
TITLE: Vapor Tightness Test Report

VAPOR TIGHTNESS TEST REPORT

Note: Test Results are Valid for (1) One Year from Date of Test!

Vessel Name:	E2M3 308	Test Date:	11/22/2017
Testing Location:	Ashland City, TN #296	Maximum Load Rate: (BPH)	6500
Tanks Tested:	All Cargo Tanks	Pressure Indicator	MANOMETER

TEST RESULTS

Test Duration: 30 Minutes

Beginning Pressure	4/4"	Inches H20
Ending Pressure	43 3/4"	Inches H20
Total Pressure Loss	1/4	Inches H20
Allowable Pressure Loss	**3.1108**	Inches H20

Barge is Vapor Tight if "Total Pressure Loss" is LESS than "Allowable Pressure Loss"

(P1)	- Beginning Pressure	(P2)	- Ending Pressure
(Delta P)	- Total Pressure Loss	(Delta PM)	- Allowable Pressure Loss
(TP)	- 14.7 plus Barge Test Pressure in PSI	(L)	- Maximum Load Rate in BPH
(V)	- Volumn of Tank (s)	(Delta T)	= Test Duration
.861	- PIA @ (P1)		

.861 x **16.2** (TP) x **6500** (L) / **29,145** (V)) = **3.1108** (Delta PM)

This vessel has been tested in accordance with Section 61.304F and has been found to be vapor tight.

William E. Nunley III	11-22-17	Howard Brown	11/22/17
Signature of Trinity Marine Tester	DATE	Signature of Trinity Marine Witness	DATE
William E. Nunley III		Howard Brown	
PRINT Name of Trinity Marine Tester		PRINT Name of Trinity Marine Witness	