



HAZARDOUS MATERIALS ATTACHMENT

Mississippi Tank Examination Report

Teutopolis, Illinois

HWY23MH017

(14 pages)

MISSISSIPPI TANK COMPANY

3000 West 7th Street
Hattiesburg, MS 39401



Report of Party to
NTSB Investigation No. HWY23MH17
Date of Accident: September 29, 2023
Accident Location: Teutopolis, IL

Magnetic Fluorescent Particle (MFPT) Testing and Charpy V-Notch
Testing of Prairie Land #18 trailer prepared for
and requested by NTSB

Prepared by Charles A. Jackson, QCM
11/21/2023

This accident investigation by the NTSB was initiated shortly after the accident involving the MC-331 cargo tank semi-trailer on September 29, 2023. The NTSB met with representatives of Mississippi Tank and invited the company to be a party to the investigation to provide technical assistance to the NTSB's evidence documentation and fact-finding activities. As part of that agreement Mississippi Tank agreed to be responsive to the direction of NTSB personnel.

An initial inspection of the subject MC-331 cargo tank semi-trailer occurred at the accident site and continued at the location of Heartland Towing and Recovery of Effingham, IL. The NTSB directed Heartland Towing and Recovery to deliver the MC-331 cargo tank semi-trailer to the Vincennes, IN location of Mississippi Tank for further testing by Mississippi Tank.

Mississippi Tank provided the NTSB with all available documentation of the manufacture of the MC-331 cargo tank semi-trailer shortly after being notified of the accident and after it was located. Mississippi Tank manufactured the involved MC-331 cargo tank semi-trailer on March 2, 1978 according to the certification.

The following report provides the results of the testing performed by Mississippi Tank on the subject trailer as directed by the NTSB.

Results of MFPT conducted in Vincennes, Indiana

All MFPT testing was performed at Mississippi Tank Co., Vincennes, Indiana Location

Technician: [REDACTED] Level II MT

All MFPT testing done in accordance with:

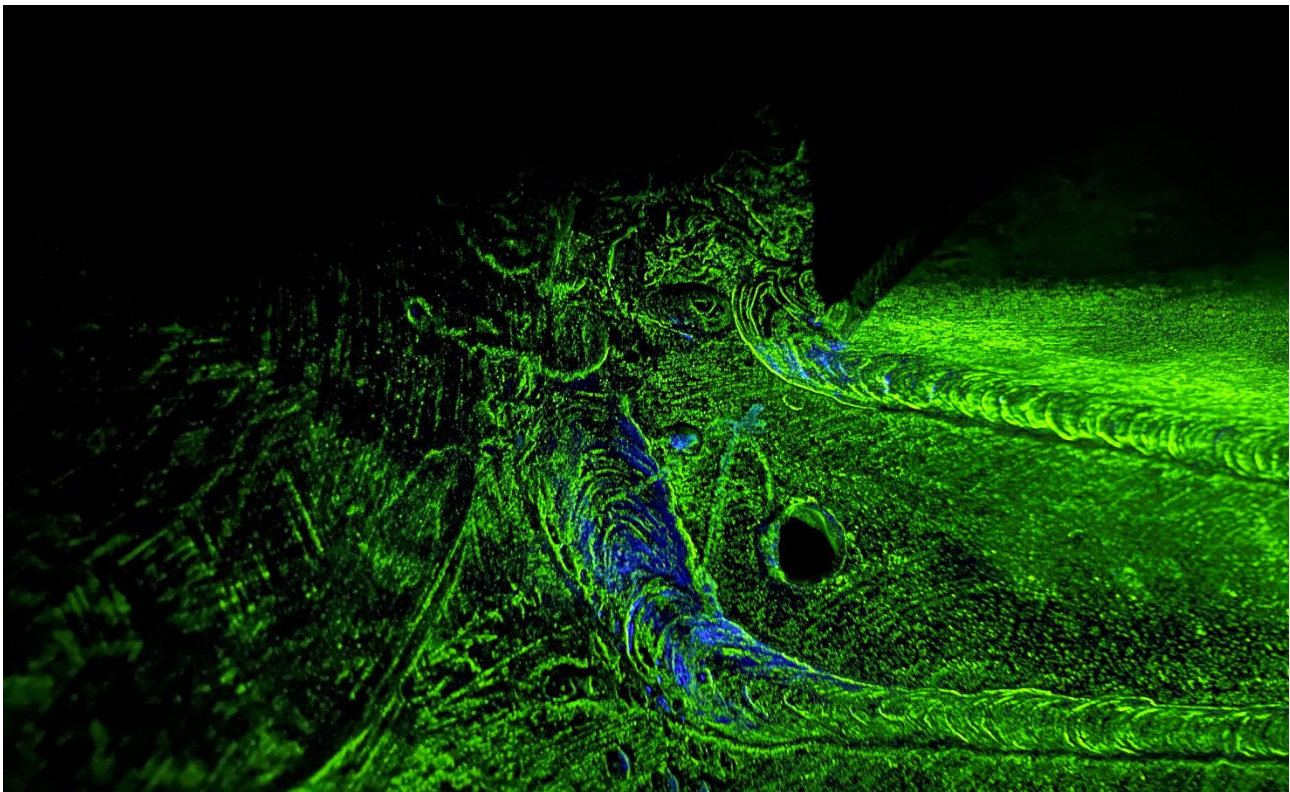
49 CFR 180.407(g)(3)

Prior to the test, both head's weld seams were properly prepared by buffing seams. During the test indications were found at the weld seam between the Float gauge and the Outage gauge recess wells. Picture below: first picture is visual inspection; 2nd picture is during MFPT.





One other indication was found on the baffle bucket to pad weld. Picture below: first picture is visual inspection; 2nd picture is during MFPT.



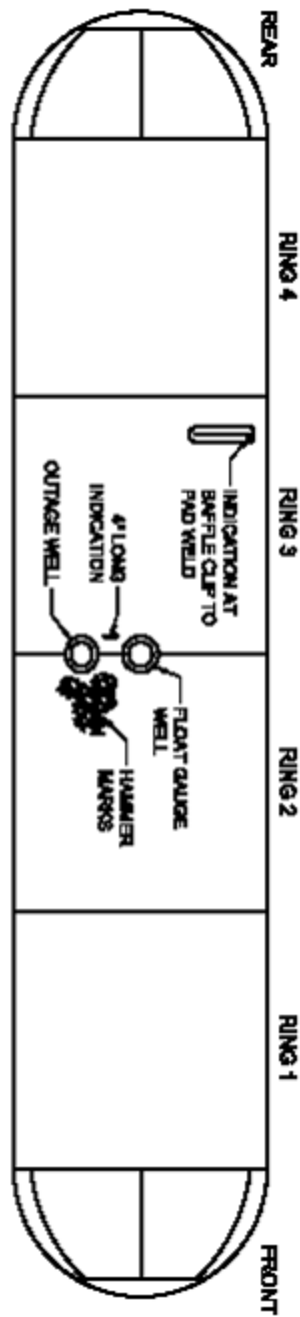
Other indications found during visual inspection, prior to MFPT, were found on the rear head. Thought to be arc strikes. See below:



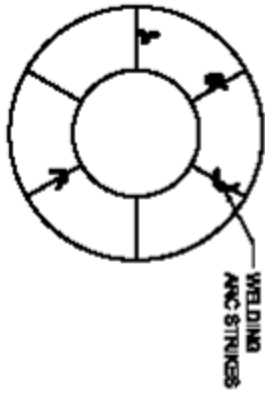




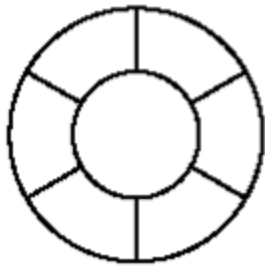
MTC JOB# - 65805



CURBSIDE VIEW



REAR VIEW



FRONT VIEW

Charpy V-Notch Testing Conducted in Vincennes, Indiana and Hattiesburg, Mississippi

All Charpy V-Notch Testing was done at the Mississippi Tank Hattiesburg, Mississippi facility.

All testing done in accordance with:

ASME Section VIII, Div. 1, UG-84 and UHT-6

A 10" x 14" section of front head was removed at the Mississippi Tank Vincennes, IN facility. The removed section was shipped to the Mississippi Tank Hattiesburg, MS facility for testing. (see below)



**MISSISSIPPI TANK COMPANY
LAB REPORT**

CUSTOMER TEUTOPOLIS MTC JOB NO. 65805

P.O. NO. _____ SPECIMEN I.D. NO. 23T5

ITEM NO. _____ TEST DATE: 11/1/23

IMPACT TESTING IS CERTIFIED AND PERFORMED IN ACCORDANCE WITH ASME BPVC SECTION IX ASME BPVC SECTION VIII, DIVISION I.

PWHT / TIME AT SOAK: AS IS /

WELD PROCESS / PROCEDURE / FOOTAGE: _____ / _____ / _____ HEAD

METAL / THICKNESS 517E

MTC PLATE NO. _____ / _____

FILLER METAL / FILLER METAL / FLUX _____ / _____ / _____

SPECIMEN ID	SPECIMEN SIZE	NOTCH LOCATION	TEST TEMP.	ABSORBED ENERGY FT.-LBS.		SHEAR %	LATERAL EXPANSION IN MILS
				ACTUAL	FULL SIZE EQUAL		
W1	.394X.130	WELD	-20	13			22
W2	.394X.130	WELD	-20	15			25
W3	.394X.130	WELD	-20	14			23
H1	.393X.130	HAZ	-20	20			45
H2	.394X.130	HAZ	-20	19			44
H3	.394X.130	HAZ	-20	21			46
H4		HAZ					
H5		HAZ					
H6		HAZ					

NOTE:
THE ABOVE REFERENCE IMPACTS SATISFY THE REQUIREMENTS OF ASME BPVC SECTION VIII- DIV. I AT A TEMPERATURE OF -20.

CERTIFIED BY: _____



Paul W Jordan
CWI 21021871
QC1 EXP. 2/1/2024

All specimens meet the requirement of UHT-6. Please see calibration certificate:

Chavez Calibrations International, Inc.

2770 Arapahoe Road, Suite 132-191

Lafayette, CO 80026-8016

Phone: 303/926-8026 Fax: 720/667-3711

Email: info@chavezusa.com Website: www.chavezusa.com

October 26, 2023

██████████
Mississippi Tank Company
3000 West 7th Street
Hattiesburg, MS 39401

Dear ██████████:

The indirect verification results have been received for the Sulec Systems Charpy machine with serial number 1567. We have analyzed the results (see attached table). The average values fall within the acceptable ranges at the energy levels tested. The following paragraphs describe the analysis of the information provided on the questionnaire.

CC) and NIST do not have super-high energy specimens in stock. ASTM E23 allows us to verify your machine to 80% of machine capacity using only low and high energy specimens under these conditions. I have quoted the following paragraph from ASTM E23 that provides the authority. ASTM E23 paragraph A2.4.4 states; "Only verification specimens that are within the useable range of the impact machine shall be tested. **To verify the machine over its full usable range, test the lowest and highest energy levels of verification specimens commercially available that are within the machines' usable range.** If the ratio of the highest to lowest certified values is greater than four, testing of a third set of intermediate range specimens is required (if the specimens are commercially available).

This machine satisfies the indirect verification requirements of ASTM Standard E 23 from 8.50 Joules to 325.4 Joules (80%) of the machine capacity.

If the machine is moved this indirect verification becomes void. Certain major repairs to the machine may also void this indirect verification. Enclosed is a sticker to attach to your machine.

This indirect verification is valid until October 23, 2024. If you have any questions concerning the evaluation of your machine, you may contact me by phone at (303) ██████████, by fax at (720) 667-3711, or by email at info@chavezusa.com.

Sincerely,



Brandon K. Vigliotti
Chavez Calibrations International, Inc.

2 Enclosures

Conclusion and Summary

The following Mississippi Tank personnel were involved in performing the testing requested by NTSB personnel:

Technician: [REDACTED] II MT

CWI: [REDACTED], 2102B71

The testing by Mississippi Tank was performed from the date of delivery of the MC-331 cargo tank semi-trailer to the Mississippi Tank Vincennes, IN facility on October 5, 2023 to approximately November 1, 2023. NTSB personnel were on site for and/or kept apprised of testing as it was performed. All testing was performed as requested by NTSB personnel. All tests and preparation for testing were performed at the Mississippi Tank Vincennes, IN facility except the Charpy V-Notch testing performed at the Hattiesburg, MS facility.

The subject MC-331 cargo tank semi-trailer was released by the NTSB on November 2, 2023, by Steven Prouty. The MC-331 cargo tank semi-trailer remains at the Mississippi Tank Vincennes, IN facility available for removal by its owner.