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August 21, 2014

November 11, 2016

Paul L. Stancil, CHMM
Senior Hazmat Accident Investigator
National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594

SUBJECT: Ultrasonic Inspection of AXLX1702 B-end stub sill pad weld termination

Dear Paul

On Wednesday November 9th as part of an investigation at Testing Technologies in Woodbridge Virginia I performed a brief Ultrasonic Shearwave test on the Subject component. Some of the UT parameters were as follows:

UT Equipment and Parameters

UT Meter:	USM Go+
Transducer.:	5 MHz - .5" Dia.
Wedge Angle:	60°
Screen Range:	4"
Reference Decibels:	59.7 dB
Distance Cal. Block	AWS DSC Block (Carbon Steel)
Sensitivity Cal Block:	ASME Basic Calibration Block (Carbon Steel)
Specifications Used:	AAR M1002, CIII, Appendix T and ASME Section V (Articles 4 and 5)
Component Thickness:	Nominal Thickness Approx. .750"

After distance and sensitivity calibration was completed the plate was scanned adjacent to the fillet weld termination for linear indications at the fillet weld to tank shell "toe" weld (see Figure 1). Surface condition of the scanned area was ground smooth with approximately 1" band of corrosion remaining adjacent to the weld. Scanning was performed in both the 1st and 2nd leg of the UT beam. An indication was observed at weld to tank toe in the 2nd leg of the UT beam. The indication height did not exceed the reference dB DAC curve and was approximately 80% of the DAC curve. The length was approximately .750" at a depth of about .100". It was determined that the indication was an undercut at the toe of the fillet weld to tank shell.

Conclusions:

After scanning of the subject component, it was determined the indication observed by UT was the visual undercut at the toe of the fillet-to-tank-shell weld.

If there are any questions, please contact me at [redacted].

Respectfully,

James R. Dinell

AXLX1702 B-end Stub Sill Pad Weld Termination UT Scan Area

FIGURE #1