

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000791**Date Inspected:** 30-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Fu Guogong & Xu Le Feng	CWI Present:	Yes	No	
Inspected CWI report:	Yes No N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes No N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes No N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes No N/A	Approved WPS:	Yes	No	N/A
Bridge No:	34-0006	Delayed / Cancelled:	Yes	No	N/A
		Component:	OBG - Closed Rib Trials & Mock Up		

Summary of Items Observed:

Orthotropic Box Girder (OBG):

Closed Rib Trials:

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the OBG Closed Rib Trial number 2.

The QA Inspector randomly observed ZPMC welder Yang Yong Zeng, utilizing the Gas Metal Arc Welding (GMAW) Process with ZPMC approved Weld Procedure Specification (WPS) WPS-B-T-2342-U2, to weld the tack welds in Weld Joint (WJ) numbers 1 through 10 attaching closed ribs piece marks U-73 (WJ's 1/2), U-01 (WJ's 3/4), U-75 (WJ's 5/6), U-02 (WJ's 7/8) and U-05 (WJ's 9/10) for Closed Rib Weld Trial number 2. The QA Inspector also randomly observed ZPMC helpers blending the tack welds after welding. The following photograph provides additional detail.

The QA Inspector randomly observed ZPMC CWI Fu Guogong and several other ZPMC Quality Control (QC) Personnel, using feeler gauges to verify the root gaps between the closed ribs and the bottom plate on the Closed Rib Trial Assembly number 2. The verification readings were taken over the full lengths of WJ's 1 through 10 on closed ribs U-73, U-01, U-75, U-02 and U-05. The QA Inspector randomly observed ZPMC QC Personnel recording the gap dimensions directly onto the ribs, above the location that the gap verification was taken. The QA Inspector randomly observed that ZPMC QC had recorded 6 readings which were not in compliance with the 0.50 millimeter maximum. The QA Inspector randomly verified the root gaps at several locations, including the 6

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locations which were in excess of 0.50 millimeters as recorded by ZPMC QC Personnel. The locations of the out of compliance readings were as follows: Closed Rib (CR) U-73 WJ 2 at 4,300 millimeters (mm) from end of rib, CR U-01 WJ 4 at 710mm and 2,510mm from end of rib, CR U-75 WJ 6 at 668mm and 4,290mm and CR U-05 WJ 10 at 4,333mm from the end of the rib. All 6 readings were measured from the unnotched end of the CR's toward the notched end of the CR's.

The following photograph provides additional detail.

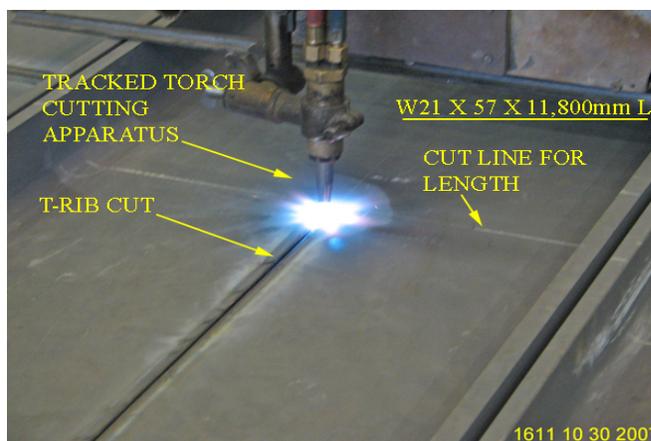
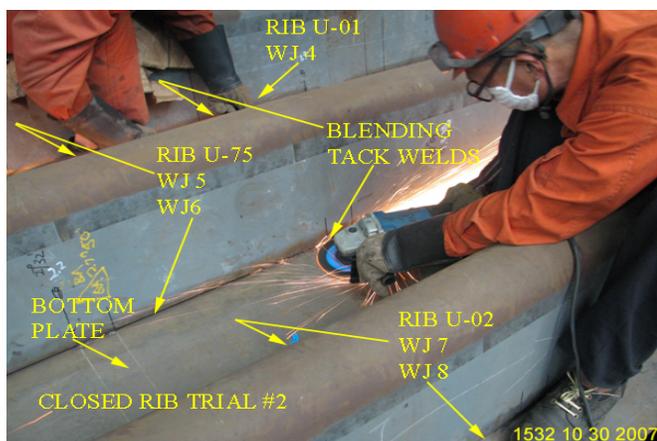
OBG T-RIBS:

The QA Inspector randomly observed ZPMC personnel utilizing a track mounted torch cutting apparatus to cut W21 X 57 X 11,880 millimeter long I-Beams to length, and in half to be used as T-Ribs in the fabrication of the Orthotropic Box Girders. The following photographs provide additional detail.

Elevation 89:

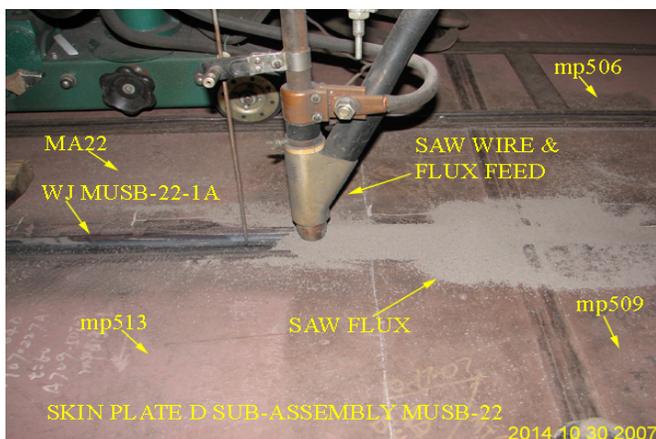
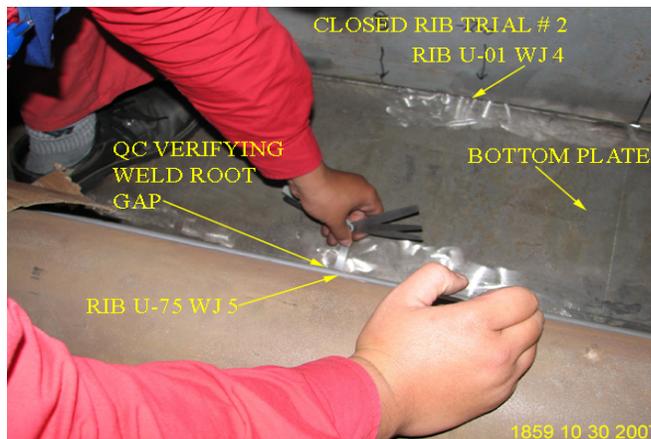
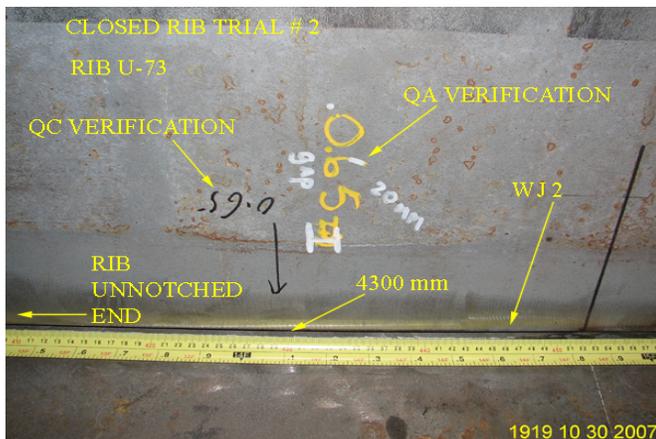
The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the fabrication of the Mock Up.

The QA Inspector randomly observed ZPMC welder Gu Caihong, utilizing the Submerged Arc Welding (SAW) process with approved ZPMC WPS WPS-B-T-2221-B-U5-S, to weld fill passes in WJ MUSB-MA22-1A, the seam weld between the upper and lower sections of Skin Plate D, MUSB-MA22. The QA Inspector observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 630 amps, welding voltage 32.8 volts with a travel speed of 610 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.



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Summary of Conversations:

The QA Inspector randomly observed that ZPMC QC had recorded a gap verification reading of 0.56 millimeters on Rib U-01 WJ 4, at 2,500 millimeters from the unnotched end of the rib. The QA Inspector asked QA Representative Fu Yuhong if the reading recorded on Rib U-01, was the actual reading. Mr. Fu Yuhong spoke with ZPMC CWI Mr. Fu Guogong, and informed the QA Inspector that the reading had been transferred from the recording log to Rib U-01 incorrectly and that the actual reading was 0.65 millimeters. The recorded reading on Rib U-01, was corrected to reflect the actual reading of 0.65 millimeters.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer