

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: 13.9/14.3,0.0/1.6File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000807**Date Inspected:** 08-Nov-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:	Sha Zhi, 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
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	Mock Up		

Summary of Items Observed:

Elevation 89M:

The QA Inspector was present at the time requested to randomly observe welding and associated operations for the fabrication of the Tower Mock Up.

The QA Inspector randomly observed ZPMC welding personnel, utilizing the carbon air arc gouging process and grinders, to back gouge Weld Joint (WJ) MUSB-MA26-9B on Strut Assembly MUSB-MA26-2 for ZPMC Critical Weld Repair (CWR) 019, WJ MUSB-MA26-10A-1 on Strut Assembly MUSB-MA26-1 for CWR 021 and WJ MUSB-25-5B on Strut Assembly MUSB-MA25-1 per CWR 023. The attached photographs provide additional detail.

The QA Inspector randomly observed ZPMC welders Jin Rong ID Number 066471, Li Zhengxu ID Number 066179, He Shebing ID Number 066243 and Jiang Xiaohu ID Number 066155, utilizing the SMAW process with approved ZPMC WPS WPS-B-T-3312-TC-P5 and Excaliber E9018 electrode, to weld the fill passes in the 2G position on WJ MUSB-SA13B/C-5 and WJ MUSB-SA13B/C-6 respectively, on 89M Diaphragm Assembly MUSB-SA13/p213. WJ's MUSB-SA13B/C-5 and MUSB-SA13B/C-6 were on opposite sides of web plate piece mark p842, at the attachment to the Upper Diaphragm Assembly MUSB-SA13. The QA Inspector observed ZPMC CWI's Sha Zhi and Xu Le Feng monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 250 amps, welding voltage 24.5 volts with a travel speed of 150 millimeters per minute for Mr. Jin, 246 amps, 24.2 volts with a travel speed of 146 millimeters per minute for Mr Li, 248 amps, 24.2 volts with a travel speed of 149 millimeters per

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minute for Mr He and 244 amps, 24 volts with a travel speed of 156 millimeters per minute for Mr. Jiang. Weld parameters appeared to comply with the above approved ZPMC WPS. The following photographs provide additional detail.

The QA Inspector randomly observed ZPMC welders Han Xiaoteng ID Number 054467, Dai Lu ID Number 048659 and Wang Zhonghuo ID Number 053753, tack welding longitudinal stiffeners piece marks mp503, mp504-1, mp504-2 and mp504-3 to 89M Skin Plate A, Sub-Assembly MUSB-MA21. ZPMC QA Representative Zhang Jiadi informed the QA Inspector that one of the tack welds being placed on longitudinal stiffener mp504-2 at WJ 20, had cracked before it was completed. The QA Inspector observed that the tack weld in question had cracked completely through the weld for the entire length of the tack weld. Mr. Zhang informed the QA Inspector that the weld would be completely removed, the area examined by Magnetic Particle Testing (MT) and another tack weld placed. The QA Inspector randomly observed weld being removed with a grinder. The QA Inspector also observed ZPMC Non Destructive Technician Cai Xin Xin performing MT in the area where the failed tack weld had been removed, and there appeared to be no indications. The QA Inspector randomly observed the rewelding of the tack weld and there appeared to be no cracks in the replacement tack weld. The attached photographs provide additional detail.

Elevation 114M:

The QA Inspector randomly observed a ZPMC helper utilizing a grinder to blend the cover passes of WJ's 5 through 13, attaching longitudinal stiffeners piece marks mp1012-1, mp1012-2 and mp1012-3 to Skin Plate C, Sub-Assembly MUSC-MA111.

The QA Inspector randomly observed ZPMC welder Bai Wenming ID Number 040434, utilizing the Flux Cord Arc Welding (FCAW) Process with approved ZPMC WPS WPS-345-FCAW-2G(2F)-Repair, to weld the fill passes in the 2G position in an excavation on WJ MUSC-MA107-2, attaching longitudinal stiffener piece mark mp1012-2 to 114M Skin Plate A, Sub-Assembly MUSC-MA107. The QA Inspector observed ZPMC CWI Chen Xi monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 302 amps, welding voltage 31 volts with a travel speed of 306 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The following photograph provides additional detail.



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Summary of Conversations:

As noted in the above body of this report.

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