

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-000463**Date Inspected:** 18-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 530**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Bing**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 77:

Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe work being performed for the fabrication of the Mock Up at elevation 77. The QA Inspector randomly observed ZPMC welders Li Mingyang ID # 046706 and Zhang Binghua ID # 053316, utilizing the Flux Cored Arc Welding Process (FCAW) in the 2G position with ZPMC approved Weld Procedure Specification (WPS) WPS-345-FCAW-2G(2F)-Repair, to perform weld repairs to Sub-Assembly (SA) MUSA-MA2 Face A (Skin Plate A) and SA MUSC MA1 Face E (Skin Plate E). Mr. Li was making weld repairs to Skin Plate A, while Mr. Zhang was making weld repairs to Skin Plate E. The QA Inspector observed ZPMC CWI Xu Bing monitoring weld parameters for both welders. The QA Inspector performed random verification of both welders' parameters and they were as follows: welding amperage 285 amps, 29 volts, 515 millimeters per minute for Mr. Li, and 287 amps, 29 volts with a travel speed of 505 millimeters for Mr. Zhang. Weld parameters appeared to comply with the above WPS.

Elevation 114:

Caltrans Quality Assurance (QA) Inspector Charlie Franco randomly observed welding being performed for the fabrication of the Mock Up at elevation 114. The QA Inspector randomly observed ZPMC qualified welders Cao Hen Jin and Wen Yan You utilizing the FCAW process to weld longitudinal stiffener MP1012 to SA MUSC-MA 107 Face A (Skin Plate A). Mr. Cao and Mr. Wen were utilizing ZPMC WPS-B-T-2232-TC-P5-F-1. The QA Inspector observed ZPMC CWI Xu Bing monitoring weld parameters. The QA Inspector also performed random

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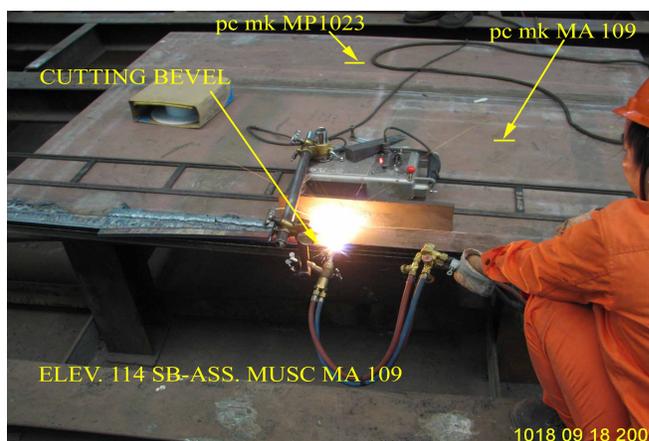
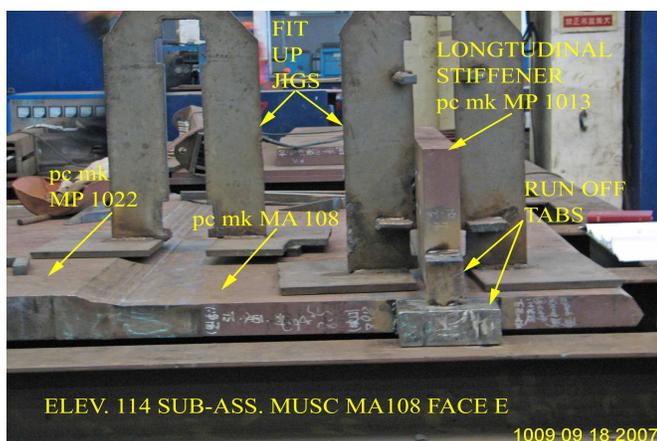
verification of the weld parameters and documented them as follows: welding amperage 298 amps, welding voltage 31.8 volts with a travel speed of 310 millimeters per minute for Mr. Cao, and 299 amps, 31.2 volts with a travel speed of 305 millimeters per minute for Mr. You. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector observed a ZPMC Beveller placing bevels on SA MUSC-MA109 Face E (Skin Plate E) with a tracked semi-automatic torch bevelling apparatus. The attached photograph provides additional detail.

The QA Inspector observed ZPMC welding personnel fitting up longitudinal stiffeners piece marks MP 1010 AND mp 1013 to SA MUSC-MA109. The attached photograph provides additional detail.

The QA Inspector observed ABF Representatives Dan McDonald and Dustin Brungardt visually inspecting the weld preparation in Weld Joint (WJ) #2 in SA MUSC-MA110 Face D (Skin Plate D), for Critical Weld Repair (CWR) Number 001 Rev. 2. The QA Inspector also observed ZPMC welding personnel placing heating panels on WJ #2 in preparation for the Submerged Arc Welding (SAW) of the root pass in WJ #2.

The QA Inspector observed ZPMC welding personnel performing heat straightening operations on piece marks MUC-A65, MUC-A67, MUC-A75 and MUC-A79.



Summary of Conversations:

ABF Representative Dan McDonald informed the QA Inspector that he had recommended to ZPMC welding personnel, not to place the root pass for CWR Number 001 Rev. 2 in WJ #2 on the seam weld for SA MUSC-110 Face D (Skin Plate D). Mr. McDonald informed the QA Inspector that he thought that placing the root pass in WJ #2 with SAW, might blow through the root in the areas between the tack welds because of possible insufficient land.

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.

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Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer