

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-000461**Date Inspected:** 15-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Lu Jian Ping**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 114:

Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding being performed for the fabrication of the Mock Up at elevation 114. The QA Inspector randomly observed ZPMC qualified welder Bai Wenming, utilizing the Flux Cored Arc Welding (FCAW) process to weld longitudinal stiffener MP1002-4 to sub assembly MA 106 Face A Upper. Mr. Bai was utilizing ZPMC weld procedure specification WPS-B-T-2232-TC-P5-F-1. The QA Inspector observed ZPMC CWI Lu Jian Ping monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 316 amps, welding voltage 31 volts, a travel speed of 317 millimeters per minute for Mr. Bai. Weld parameters appeared to comply with the above approved ZPMC weld procedure specification (WPS).

Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding being performed for the fabrication of the Mock Up at elevation 114. The QA Inspector randomly observed ZPMC qualified welder Jiang Zhou, utilizing the Flux Cored Arc Welding (FCAW) process to make weld repairs to areas found to have defects during ZPMC Ultrasonic Testing (UT) of the welds attaching the longitudinal stiffeners to Elevation 114 sub assembly MA 101 Face B. Mr. Jiang was utilizing ZPMC weld procedure specification WPS-345-FCAW-1G(1F)-Repair-1. The QA Inspector observed ZPMC CWI Lu Jian Ping monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 298 amps, welding voltage 31.2 volts. The QA Inspector observed Mr. Lu adjust the weld parameters of Mr. Bai. After the adjustment the weld parameters were verified at

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290 amps and 29 volts by the QA Inspector. Weld parameters appeared to comply with the above approved ZPMC (WPS). The following photographs provided additional detail.



Summary of Conversations:

The QA Inspector asked ZPMC CWI Lu Ping what the welding parameters were for the repair welding being performed on Elevation 114 sub assembly MA 101 Face B. Mr. Lu informed the QA Inspector that they were the same as the weld parameters used in the original welding. The QA Inspector asked Mr. Lu to verify that the parameters were indeed the same. Mr. Lu reviewed the parameters on ZPMC approved WPS-345-FCAW-1G(1F)-Repair-1 and informed the QA Inspector that the weld parameters were somewhat lower than those used in the original welding and informed the QA Inspector that he was going to reset the welders parameters so that they wouldn't be so close to the upper limits of the range.

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