

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-007137**Date Inspected:** 17-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**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:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Tu Jun, Mr. Zhang Zhi Neng,

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Prior to Caltrans QA Inspectors' concurring with issuance of OBG deck plate closed rib green tag releases a review of the ultrasonic inspection database is performed to verify all closed rib tack weld repair locations have been ultrasonically accepted. Today this QA Inspector, Mr. Paul Dawson, performed data entry of ultrasonic inspection information from the field generated Ultrasonic inspection data sheets onto the common drive computer database for the following OBG deck panels:

Tower Bay 10

ZPMC issued an "Inspection Notification Sheet" #3118 requesting QA to perform ultrasonic (UT) inspections of Lift 2 South Tower Corner Seam AE Back Filled plate welds SSD1-TL5H/L-1, SSD1-TL5H/L-95, SSD1-TL5C/L-108, SSD1-TL5C/L-200, SSD1-TL5E/L-059 and SSD1-TL5F/L-2. The QA Inspector observed ZPMC ultrasonic Inspectors had previously marked these welds as being ultrasonically accepted. This QA Inspector performed random ultrasonic inspections of the above listed welds and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on these inspections see

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the TL6027 Ultrasonic Test Report.

This QA Inspector observed ZPMC welder Mr. Huang Guo qi, stencil 059525 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/D-25A. The QA Inspector observed that the base material where the welding was being made had been preheated with electric heating elements and ZPMC QC Inspector Mr. Mao Bin Bin had recorded a welding current of 320 amps and 32 volts. The QA Inspector measured a welding current of approximately 310 amps and 30.9 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Hua, stencil 049220 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/D-20A. The QA Inspector observed that the base material where the welding was being made had been preheated with electric heating elements and ZPMC QC Inspector Mr. Mao Bin Bin had recorded a welding current of 320 amps and 31.9 volts. The QA Inspector measured a welding current of approximately 320 amps and 30.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yin Guoqiang, stencil 058792 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/D-13A. The QA Inspector observed that the base material where the welding was being made had been preheated with electric heating elements and ZPMC QC Inspector Mr. Mao Bin Bin had recorded a welding current of 315 amps and 31.7 volts. The QA Inspector measured a welding current of approximately 290 amps and 30.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ma Yusheng stencil 040759 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/D-20A. The QA Inspector observed that the base material where the welding was being made had been preheated with electric heating elements and ZPMC QC Inspector Mr. Mao Bin Bin had recorded a welding current of 325 amps and 32.2 volts. The QA Inspector measured a welding current of approximately 310 amps and 33.5 volts. The QA Inspector asked ZPMC QC Inspector Mr. Mao Bin Bin if the 33.5 volts is within the acceptable range of the welding procedure and Mr. Mao Bin Bin indicated the voltage was too high and Mr. Bin Bin adjusted Mr. Ma Yusheng's welding voltage to approximately 31.8 volts. Items observed on this date do not appear to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Feng Lian Jun, stencil 040330 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld NSD1-FDSA3-1B/C-36. The QA Inspector observed that the base material where the welding is preheated to a minimum of 110 degrees Celsius as required by the welding procedure. The QA Inspector observed ZPMC QC had recorded a welding current of 317 amps and 31.5 volts. The QA Inspector performed random measurements and observed a welding current of 302 amps and 29.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Jun, stencil 201825 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/D-37. The QA Inspector observed that the base material where the welding is preheated to a minimum of 110 degrees Celsius as required

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by the welding procedure. The QA Inspector observed ZPMC QC had recorded a welding current of 318 amps and 31.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Weibao, stencil 052923 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/C-23. The QA Inspector observed that the base material where the welding is preheated to a minimum of 110 degrees Celsius as required by the welding procedure. The QA Inspector observed ZPMC QC had recorded a welding current of 318 amps and 31.6 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 052923 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make stiffener to skin plate weld WSD1-FESA3-1B/C-22. The QA Inspector observed that the base material where the welding is preheated to a minimum of 110 degrees Celsius as required by the welding procedure. The QA Inspector observed ZPMC QC had recorded a welding current of 318 amps and 31.6 volts. Items observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

See above.

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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
