

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-008371**Date Inspected:** 01-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**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. Zhu Tian Shu, Mr. Guo Peng, Mr. Du Zhi Qun and Mr. Sun Wei

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. This QA Inspector observed the following:

OBG Bay 2

This QA Inspector observed ZPMC welder Ms. Zhang Caimei stencil 207237, is using submerged arc welding procedure WPS-B-T-2231-L2C-S-2 to make Floor Beam groove weld FB3084-001-026. Prior to the start of this weld this QA Inspector observed the weld groove where the welding is to be performed has previously been ground to a bright metal surface as required by AWS and Ms. Caimei is qualified to make this weld. This QA Inspector observed ZPMC Quality Control Inspector Mr. Zhu Jun is monitoring this welding and he is monitoring the preheating of the base material prior to commencement of welding. This QA Inspector measured a welding current of approximately 600 amps and 29.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 8

This QA Inspector observed ZPMC welder Mr. Bai Guofeng, stencil 203272 is using shielded metal arc process

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WPS-B-P-2112 to make fillet tack welds on OBG floor beam weld FB205-013-034. This QA Inspector observed a welding current of approximately 130 amps. This QA Inspector observed the welding electrodes are being stored in an electrode storage container which was not connected to any electric power and the shielded metal arc low hydrogen electrodes were at an ambient temperature. This QA Inspector showed ZPMC QC Inspector Mr. Xia Yong Zheng the welding electrodes are not being maintained in a heated electrode storage and Mr. Xia Yong Zheng instructed Mr. Bai Guofeng to discard the three remaining shielded metal arc welding electrodes and obtain new welding electrodes. A short while later this QA Inspector observed Mr. Bai Guofeng has obtained shielded metal arc welding electrodes which are too hot to touch with the bare hand and the electrode storage oven has been connected to an electrical power supply. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 9

ZPMC issued "Inspection Notification Sheet" number 3834 informing QA that ZPMC has completed ultrasonic inspections of the following deck panel closed rib splice butt welds: DP3007-001-022, DP3007-001-023 and the following deck panel closed rib internal stiffener complete joint penetration welds: DP3017-001-175, DP3017-001-176, DP3017-001-185, DP3017-001-186, DP3017-001-195, DP3017-001-196, DP3017-001-205, DP3017-001-206, DP3017-001-215, DP3017-001-216, DP3006-001-036, DP3006-001-037, DP3006-001-046 and DP3006-001-047. This QA Inspector performed ultrasonic inspections of approximately 20 percent length on each of the welds listed above and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on these inspections see the TL6027 Ultrasonic Test Report.

Tower Bay 10

This QA Inspector observed ZPMC welder Ms. Yuan Tong Zhi, stencil 040349 is using flux cored welding procedure WPS-B-T-2332-TC-P5-F to make North Tower Lift 4 Skin C stiffener to skin plate weld NSD1-FCSA4-1B/C-002. This QA Inspector observed a welding current of approximately 290 amps and 32.0 volts and the base material appears to be between 110°C and 230°C. This QA Inspector observed Quality Control Certified Welding Inspector Mr. Da Zhiqun monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Luo Zhimei, stencil 047350 is using flux cored welding procedure WPS-B-T-2332-TC-P5-F to make North Tower Lift 4 Skin C stiffener to skin plate weld NSD1-FCSA4-1C/C-002.

This QA Inspector observed a welding current of approximately 300 amps and 32.5 volts and the base material appears to be between 110°C and 230°C. This QA Inspector observed Quality Control Certified Welding Inspector Mr. Da Zhiqun monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

Tower Bay 11

This QA Inspector observed ZPMC welder Ms. Xia Wenling, stencil 044558 is using welding procedure specification WPS-B-T-2221-B-L2C-S-1 to make submerged arc groove weld WD1-A597A/C-025. The QA Inspector observed ZPMC Quality Control Inspector Mr. Xu Jin Long monitoring this welding and the QA Inspector observed a welding current of approximately 580 amps and 31.0 volts. Items observed on this date

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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:	Carreon,Albert	QA Reviewer
