

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-000595**Date Inspected:** 05-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**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:** N/A**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication of the Mock-up 77, 89 and 114 meters elevations scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Tower Mock-up 114 Meters Elevation.

The QA inspector observed Mr. Li performing ultrasonic testing from side C at the junction of the skin C upper panel and longitudinal stiffeners, joints # 7, 10 and 13. The QA inspector observed that Mr. Li recorded on the steel rejectable indications located: joint #MA112-7, depth of 81 mm and 15 mm of length; joint #MA112-10, Y value of 0 mm, depth of 73 mm and length of 500 mm, MA112-13 indication # 1, Y value of 35 mm, depth of 60 mm and length of 30 mm.

The QA inspector observed ZPMC ultrasonic testing (UT) level II technician Li Li Ming performing ultrasonic testing from side C with the 45 degree angle wedge transducer at the junction of the skin A lower panel and longitudinal stiffeners joint # 3. Mr. Li recorded on the steel a rejectable indication located: joint #MA107-3, depth of 70 mm and 20 mm of length.

The QA inspector witnessed ZPMC Quality Control inspector UT ASNT level II E Shuiqin performing Ultrasonic testing at the junction of the corner plate MA116 and longitudinal stiffeners joint # 1 and 2 side B. The QA inspector observed that Ms. E recorded on the steel a rejectable indication located: joint #MA116-1, Y value of 840 mm, depth of 17 mm and length of 30 mm.

The QA inspector witnessed ZPMC Quality Control inspector E Shuiqin performing Ultrasonic testing at the junction of the corner plate MA119 and longitudinal stiffeners joint # 1 and 2. The QA inspector observed that Ms. E recorded on the steel that the side A was accepted by ZPMC.

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The QA inspector observed that the UT verifications from Mr. Li and Ms. E appeared to be in compliance with the contract documents. However, after ZPMC completed its verifications the QA inspector had a conversation with ABF Non Destructive Testing (NDT) Supervisor Kevin Carpenter. The QA inspector brought to the attention of Mr. Carpenter that ZPMC was still using an IIW calibration block without the engraved marks for reading +/- 2 degrees angle wedge transducer. Mr. Carpenter relayed to the QA inspector that ZPMC would need to re- UT the members if ZPMC could not demonstrated that the angle was not greater than +/- 2 degrees in accordance with the contract documents. Later, ZPMC and ABF verified the refracted angle beam wedge transducer was within the +/- 2 degrees engraved marks with the DSC block. ZPMC and ABF determined that the angle beam was in compliance with the contract documents.

The QA inspector observed that ZPMC was not performing production welding (only tack welding) on this date at the junction of the longitudinal stiffeners to skin panel or internal splice on the Tower Mock-ups 114 meters elevation.

ZPMC, welders Guo Dengyun and Zhang Xiagrong were observed by the QA Inspector performing tack welding operations at the junction of the internal splice A-65 and longitudinal stiffeners following the approved welding procedure specification WPS-B-T-2211-B-U3b. Base metal was designated as A-709 Grade 345. ZPMC was using the shielded metal arc welding (SMAW) process in the horizontal (2G) position with the 4.0 mm diameter designated as E7018/AWS A5.1, brand name TL-508. The QA Inspector verified amperages, preheat and heat interpass temperatures. The QA inspector found that welding parameters appeared to be in accordance with the contract documents.

Summary of Conversations:

As noted 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
