

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-000475**Date Inspected:** 08-Sep-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:** Cui Yi Ru**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 Assemblies 77M, 89M and 114M**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication of the Mock-ups 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 77 Meters Elevations

The QA performed UT evaluation from side B on the diaphragm plate SA-104 joint # 73 evaluating the middle half and bottom quarter with the 70° angle wedge. The QA inspector performed 10 % Ultrasonic testing (UT) verifications on the top diaphragm splice plate SA-104 at the Y location marks from 480 mm to 700 mm. The QA inspector discovered that the weld areas tested appeared to be in general compliance with AWS D1.5 2002. See UT report TL_6027 generated on this date.

The QA performed UT evaluation from side A & B at the diaphragm plate SA-95 joint # 73 evaluating the middle half and bottom quarter with the 70° angle wedge. The QA inspector performed 10 % Ultrasonic testing (UT) verifications on the top diaphragm splice plate SA-104 at the Y location marks from 480 mm to 900 mm. The QA inspector discovered that the weld areas tested appeared to be in general compliance with AWS D1.5 2002. See UT report TL_6027 generated on this date.

The QA inspector witnessed ZPMC Quality Control inspector E Shuiqin and Li Li Ming performing Ultrasonic testing at the junction of the skin E and stiffeners mp5s and mp3 joint # 3, 4 and 5. The QA inspector observed that Mr. E and Mr. Li recorded on the steel numerous rejectable indications. The QA inspector observed that the UT verifications performed by Ms. E and Mr. Li appeared to be in general compliance with AWS D1.5 2002. However, the QA inspector observed that the UT results for all the indications found by ZPMC were not clearly written on the steel as per contract documents. The QA inspector had a conversation with ZPMC QA Inspector

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Xu Jun. The QA inspector recommended to Mr. Jun that ZPMC needed to write the UT results clearly on the steel as per contract documents.

Tower Mock-up 89 Meters Elevation

The ZPMC QA inspector stopped welding the bottom diaphragm plate P1235 to the p213. The QA inspector performed random verifications of the joint configuration before fit-up. The QA inspector had a conversation with ZPMC QA inspector Xu Jun, Mr. Jun relayed to the QA inspector that ZPMC stopped welding because ZPMC did not have welder operator on the first shift for welding the diaphragm splice.

Tower Splice Mock-up 114 Meters Elevation

The QA inspector observed ZPMC removing rotation devices at the top of skin C, after welding at the joints # 3, 4, 5 and 6.

The QA inspector observed ZPMC performing heat straightening to the skin lower panel C piece marked mp1017, MA111, and mp1018.

ZPMC, welder operator Xing Jie was observed by the QA inspector performing welding operations at bottom skin panel C at the junction of MA108 to mp1022. Mr. Xing was observed by the QA inspector welding the filler passes following the approved welding procedure specification WPS-B-T-2321-B-P3-S. Base metal was designated as A-709 Grade 345. ZPMC was using the submerged arc welding (SAW) process in the flat (1G) position with the 4.8 mm diameter electrode designated as EM12K/AWS A5.17, brand name JW-3. The QA Inspector verified amperage, voltages, travel speed, preheat and heat interpass temperatures. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Cui Yi Ru appeared to be in accordance with the contract documents. The QA inspector observed Bureau of Veritas QA inspector Li Wen Sheng with ABF present on the shop. See below for digital pictures that support this report.



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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
