

**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-000623**Date Inspected:** 01-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:** Xu Lefeng**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:** Tower Mock-up 114 M & 77 M**Summary of Items Observed:**

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

**Tower Splice Mock-up 114 Meter Elevation**

The QA inspector had a conversation with the ABF QA inspector Song Weimin with Bureau of Veritas. Mr. Song relayed to the QA inspector that ZPMC started welding the Tower Splice Mock up 114 meter elevation at approximately 2200 hours on August 31.

ZPMC, welders Guo Dengyun and Li Dong were observed by the QA inspector performing welding operations on the skin panel B at the junction of the rotating devices to plate MA102.

Mr. Li and Mr. Guo were observed performing welding operations following the parameters listed within WPS-B-P2112. ZPMC was using the Shielded Metal arc welding (SMAW) process in the horizontal (2F) position with the 4.0 mm diameter electrodes 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 the welding parameters recorded after ZPMC approved Certified Welder Inspector Cui Yi Rui appeared to be in accordance with the contract documents.

**Tower Mock-up 77 Meter Elevation**

ZPMC, welder operators Xin Meng and Liu Xie were observed by the QA Inspector performing welding operations on the skin panel D.

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Mr. Liu was observed welding the filler and cover passes at the junction of the longitudinal stiffener mp8 to skin panel D, joint # 4 following the approved welding procedure specification WPS-B-T-2332-TC-P5-F. Base metal was designated as A-709 Grade 50. ZPMC was using the flux cored arc welding (FCAW) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xiu Zhai Gu appeared to be in accordance with the contract documents.

Mr. Xin was observed welding the filler and cover passes at the junction of the mp8 to skin panel D, joint # 3 following the approved welding procedure specification WPS-B-T-2332-TC-P5-F. Base metal was designated as A-709 Grade 50. ZPMC was using the automated flux cored arc welding gas (FCAW-G) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xiu Zhai Gu appeared to be in accordance with the contract documents.

ZPMC, welder operators Zhan Binghua and Li Mingyang were observed by the QA Inspector performing welding operations on the skin panel A.

Mr. Zhan was observed welding the filler and cover passes at the junction of the mp1 to skin panel A, joint # 1 following the approved welding procedure specification WPS-B-T-2332-TC-U5-F. Base metal was designated as A-709 Grade 50. ZPMC was using the Flux cored arc welding (FCAW) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xu Lefeng appeared to be in accordance with the contract documents.

Mr. Li was observed welding the filler and cover passes at the junction of the mp1 to skin panel A, joint # 1 following the approved welding procedure specification WPS-B-T-2332-TC-U5-F. Base metal was designated as A-709 Grade 50. ZPMC was using the automated flux cored arc welding gas (FCAW-G) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xu Lefeng appeared to be in accordance with the contract documents.

The QA inspector witnessed the ZPMC magnetic particle Testing (MT) verification on the root pass located at the junction of skin panel D and the longitudinal stiffeners weld joints # 3 and 4. The QA inspector observed MT ASNT Level II technician Cai Xin Xin performing MT verifications. The QA inspector observed that Mr. Cai's MT verifications appeared to be in compliance 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.

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<b>Inspected By:</b>	Acuna, Alfredo	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer
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