

**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-003560**Date Inspected:** 31-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Qing Xiang**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 Assembly**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Robert Vatcher 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 Orthotropic Box Girder (OBG) and Tower Skin Plates. The QA Inspector observed the following: The weather today is 27C with a high of 33C, clear with winds south east & steady at 20 kph. Humidity is at 78% with a dew point of 25C.

**Heavy Shop I**

QA observed various grinding operations being performed in Heavy Bay 3. Currently there are 7 ZPMC personnel performing said operations on deck panel partial penetration welds.

**Heavy Shop II**

QA performed WPS verification for weld joint ESD1-SA77A/E-62A to WPS -B-T-2221-B-U3C-2 (SAW) in the flat position. Welding operator Cao Xiaohua id number 056975 was observed by QA as the lead and qualified welder. Measured parameters were as follows; Preheat verified at 110C, voltages-33.2, Amperage's-656.0 utilizing H14 electrode positive with 4.8 mm diameter wire. Travel speed was verified at 616 millimeters per minute. ZPMC QC inspector (CWI) onsite is An Qing Xiang and the ZPMC QC inspector is Chen Bo. QA observed QC verify all the above parameters as well utilizing appropriate amp gauges and temperature sticks as well.

QA observed the performance of initial 100% Magnetic Particle Testing (MT) by MT Level II Bo Tin Rui on

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piece mark ESD1 SA237A /F-19/120 of the Tower Skin Plate to stiffener weld root pass. The weld surfaces were prepared for testing by light grinding and power wire brush. MT was performed in both directions as required and no relevant indications were discovered at the time of inspection.

### Heavy Shop III

QA performed WPS verification for weld joint ESD1-SA10A/k-15b (15a) (60 mm) to WPS -B-T-2221-B-U3C-2 (SAW) in the flat position. Measured parameters were as follows; Preheat verified at least 110C, voltages-30.2, Amperage's-565.0 utilizing electrode positive with 4.8 mm diameter wire. Travel speed 495 millimeters per minute. ZPMC QC inspector (CWI) onsite is Xu Le Feng and the AB/F QC inspector is Yang Yiheng. QA observed QC verify all the above parameters as well utilizing appropriate amp gauges and temperature sticks as well.

QA performed WPS verification for weld joint ESD1-SA10A/k-15B (15a) (60 mm) to WPS -B-T-2221-B-U3C-2 (SAW) in the flat position. Measured parameters were as follows; Preheat verified at least 110C, voltages-30.1, Amperage's-677.0 utilizing electrode positive with 4.8 mm diameter wire. Travel speed 582 millimeters per minute. ZPMC QC inspector (CWI) onsite is Xu Le Feng and the AB/F QC inspector is yang Ming. QA observed QC verify all the above parameters as well utilizing appropriate amp gauges and temperature sticks as well.

The above mentioned items pertaining to the Production Material Testing (PMT) and associated macro etch specimen measuring appears to conform to the contract documents.

### Summary of Conversations:

No relevant conversations this date.

### 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 Ady Velasco 138-1694-2685, who represents the Office of Structural Materials for your project.

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

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