

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-001169**Date Inspected:** 04-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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:** Tower and OBG Fabrication**Summary of Items Observed:**

Caltrans 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. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Mock Up:

CWI Inspector: Hu Wie Qing, Wu Ming Kai

Bay 3:

The QA Inspector observed ZPMC personnel perform heat straightening of OBG PL89C side plate SP039 as directed by HSR1(B)-108. This HSR has been approved by Mr. Hu Gang on 01-01-2008. The QA inspector observed Quality Control Inspector Mr. Duan Yabing monitoring the heat temperature using a laser indicating device and the maximum temperature that Mr. Yabing had recorded is 552°C. No weights were placed on this plate during this flame straightening. This work is taking place on an elevated platform approximately six feet above the adjacent floor. Items observed appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Wei Dashuai stencil 51246 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL99B side plate SP60 stiffener weld SP060-01-019 and SP060-01-020. The QA Inspector observed 1.4 mm diameter E71T-1

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welding electrode with a welding current of approximately 275 amps, 28.1 volts and the base material has a minimum preheat of 20°C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Liu Zihong stencil 62447 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL35A side plate SP078 stiffener weld SP078-01-17 and SP078-01-18. The QA Inspector observed a welding current of approximately 275 amps 29.0 volts, a CO<sub>2</sub> shielding gas flow of 18 liters per hour and the base material had been preheated to a minimum of 60°C. Items observed by the QA Inspector appear to comply with project specifications.

QA Inspector observed ZPMC welder Ms. He Yu Mei stencil 48625 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL102B side plate SP066 stiffener welds SP066-01-021 and SP066-01-022. The QA Inspector observed a welding current of approximately 280 amps, 27.5 volts and the base material has a minimum preheat temperature of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC personnel perform heat straightening of OBG base plate BP001 as directed by HSR1(B)-107. This HSR has been approved by Mr. Hu Gang on 01-02-2008. The QA inspector observed Quality Control Inspector Mr. Zhang Qizang monitoring the heat temperature using a laser indicating device. The QA Inspector observed the laser device display indicates the battery is almost dead. The QA Inspector observed the temperature display is visible for approximately one second and then the temperature display goes blank. The QA Inspector asked ZPMC CWI Mr. Hu Wei Qing if he was aware that the laser temperature measurement device was not functioning properly. Mr. Qing said he will have Mr. Qizang obtain a new battery before any additional heat straightening takes place. The QA Inspector observed Mr. Qizang did obtain a new battery prior to ZPMC personnel performing additional heat straightening and the laser temperature indicating device appeared to be functioning normally. Items observed by the QA Inspector do not appear to fully comply with project specifications. See the photograph below showing this heat straightening process.



### Summary of Conversations:

See above for summary of conversations.

### 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

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for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cochran,Jim	QA Reviewer
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