

**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-001023**Date Inspected:** 05-Dec-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

<b>CWI Name:</b>	Xu Le Fong and Lee Chan Woo	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes	No N/A
		<b>Delayed / Cancelled:</b>	Yes	No N/A

**Bridge No:** 34-0006**Component:** Tower 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:

Tower Mock Up:

Bay 2:

The Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel using a straight edge to compare the outside dimensions of the 114 M elevation tower mockup assembly with a tower mockup jig that had been positioned adjacent to the 114 M elevation tower mockup. This tower mockup has been tack welded together, and final welding has not been started. The QA Inspector used a straight edge between the outside surfaces of the 114 M tower mockup and the jig and the maximum offset of the areas that were accessible appear to be approximately 1 to 2 mm. This inspection was limited to the lower surfaces of the two components. Below is a photograph showing ZPMC personnel using a straight edge to measure the top surfaces of the 114M tower mockup assembly.

The Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel using a torch to perform heat straightening (HSR) of the 114 M interior splice plate MUC-065-2 as reference by HSR(CT)-20. The QA Inspector observed ZPMC Quality Control personnel using laser heat measurement equipment to monitor the temperature of the base material during this heat straightening.

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# WELDING INSPECTION REPORT

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The Caltrans Quality Assurance (QA) observed ZPMC welder Mr. Loi Li Chao welder number 053619 using welding procedure specification WPS-B-T-2331-TC-US-F to weld the partial penetration groove weld of 89 M skin plate sub assembly MA-21 partial joint penetration (PJP) weld 15 in the 2G (horizontal) position. The QA Inspector observed a welding current of approximately 310 amps and 31.7 volts. Items observed by the QA Inspector appear to comply with project specifications.

The Caltrans Quality Assurance (QA) observed ZPMC welder Mr. Jaing Zhen welder number 040261 using welding procedure specification WPS-345-FCAW-1G(1F)-Repair-1 to perform critical weld repair # 26-6 of the complete joint penetration groove weld MM 75-3 in the 2G (horizontal) position. The QA Inspector observed a welding current of approximately 320 amps and 30.5 volts. Items observed by the QA Inspector appear to comply with project specifications.



### Summary of Conversations:

American Bridge / Fluor Quality Control representative Mr. Kevin Carpenter informed the Quality Assurance representative that no QC personnel are performing ultrasonic inspections of bridge component welds today.

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

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