

**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-001173**Date Inspected:** 07-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2000**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Wu Ming Kai, Liz Hi Giang	<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
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG and Tower Mockup	

**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Joe Lanz arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions during second shift. While on site the QA Inspector observed and/or discovered the following.

Bay 4

OBG Beams

The QA Inspector randomly observed ZPMC welding personnel Shinjan Hao, ID 053605 repair welding side plate SP030-01 stiffener weld numbers 012 to 023. The welding was performed in the 2F (horizontal) position gas shielded flux cored arc welding (FCAW-G) process with a 1.4mm diameter electrode, filler metal appeared to be E71T-1, brand name; Supercored 71H. The QA Inspector observed ZPMC QC Certified Welding Inspector Wu Ming Kai monitoring the welding and the ZPMC QC inspector Luan Zhao Gang was verifying that the welding parameters of 250 amps, 28.6 volts and pre-heat were in accordance with the Welding Procedure Specification WPS-345-FCAW-1-Repair -1. The welding parameters and work observed by QA Inspector appear to meet the minimum requirements in accordance with the WPS and contract documents.

Note: When the QA inspector first arrived in bay 4, the QC inspector Luan Zhao Gang was asked who was the Certified Welding Inspector monitoring the work. He immediately made a phone call and shortly after the call was completed, Wu Ming Kai arrived in bay 4.

Bay 7

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## OBG Beams

The QA Inspector randomly observed ZPMC welding personnel Ren Jin Zhu, ID #044837 tack welding floor beam stiffener to web fillet welds. The piece mark appeared to be FB016-03, weld numbers 048 and 049. The welding was performed in the 2F (horizontal) position utilizing the shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal appeared to be E7018, brand name TL-508. The QA Inspector periodically observed the ZPMC QC Certified Welding Inspector Liz Hi Giang monitoring the welding and the ZPMC QC Certified Associate Welding Inspector verifying that the welding parameters and the minimum pre-heat of 20° Centigrade were in accordance with the Welding Procedure Specification WPS-B-P-2112. The QA Inspector observed that the preheat and welding parameters of 175 amps, 26.0 volts, 110 millimeters per minute travel speed measured by the QC Inspector appeared to be within the WPS ranges of 140 to 180 amps, 20 to 27 volts and 48 to 194mm per minute travel speed. The welding parameters and work observed by QA Inspector appear to meet the minimum requirements in accordance with the WPS and contract documents.

Note: When the QA inspector first arrived in bay 7, the QC inspector Xu Tao was asked who was the Certified Welding Inspector monitoring the work. He immediately made a phone call and shortly after the call was completed, Liz Hi Giang arrived in bay 7.

The QA Inspector randomly observed ZPMC welding personnel Wang Li, ID 044772 tack welding floor beam stiffener to web fillet welds. The piece mark appeared to be FB016-02, weld numbers 013 and 014. The welding was performed in the 2F (Horizontal) position utilizing the shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, the filler metal appeared to be E7018, brand name TL-508. The QA Inspector observed ZPMC QC Certified Welding Inspector Liz Hi Giang monitoring the welding and the ZPMC QC inspector Xu Tao was verifying that the welding parameters and the minimum pre-heat of 20° Centigrade were in accordance with the Welding Procedure Specification WPS-B-P-2112. The QA Inspector observed that the preheat and welding parameters of 165 amps, 23.0 volts, 120 millimeters per minute travel speed measured by the QC Inspector appeared to be within the WPS ranges of 140 to 180 amps, 20 to 27 volts and 48 to 194mm per minute travel speed. The welding parameters and work observed by QA Inspector appear to meet the minimum requirements in accordance with the WPS and contract documents.

The QA Inspector randomly observed ZPMC welding personnel Chen Chuan Zong, ID #044824 welding temporary lifting devices on floor beam FB021-01. The welding was performed in the 3F (vertical) position utilizing the self shielded flux cored arc welding (FCAW-S) process.

Note: When the QA inspector first arrived in bay 7, the QA inspector observed no quality control personnel monitoring the welding. The welder was asked who was monitoring his work and he pointed out the door of bay 7.

The welder completed the welding on the temporary lifting device in approximately five minutes and left the area.

## 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

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for your project.

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