

**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-004692**Date Inspected:** 22-Nov-2008**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>	Liu Hua Jie and Hu Wei Qing			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Component:</b>	OBG and SAS Tower Fabrication		

**Summary of Items Observed:**

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

**Bay 8: Tower Diaphragm**

This QA observed ZPMC/NDE perform MT on the following weld joints for floor beams. This QA also perform 10% MT after ZPMC/NDE completed their inspection and accepted the weld joints.

- a) FB003-109-002~005, 055~102 – deemed acceptable
- b) FB003-114-002~005, 055~102 – deemed acceptable
- c) FB003-115-002~005, 055~102 – deemed acceptable
- d) FB003-116-002~005, 055~102 – deemed acceptable
- e) FB060-001-002~005, 047~094 – deemed acceptable
- f) FB060-002-002~005, 047~094 – deemed acceptable
- g) FB062-002-002~005, 047~094 – deemed acceptable

The QA Inspector randomly observed ZPMC welder Xie Lian Fang ID Number 045247, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the CJP fill pass on plate splice butt joint of floor beam sub-assembly FB003-170-006. QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters.

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# WELDING INSPECTION REPORT

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This QA observed ZPMC welders ID #045203, ID #202654 and ID #045175 utilizing the FCAW Process in the 2F (Horizontal) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H semi automatic with ZPMC WPS WPS-B-T-2132 to weld fillet cover pass on fillet weld connection between tower diaphragm plate to diaphragm flange NSD1-SA363-13 (North 56M). The QA Inspector randomly observed ZPMC CWI Liu Hua Jie monitoring weld parameters.

This QA also observed ZPMC welder ID #045133 SMAW(2F) fillet weld repair on undercut of tower diaphragm flange to plate fillet weld connection SSD1-SA361-15 using TL-508 electrode. Preheat to proper temperature was implemented and has been monitored by ZPMC CWI Liu Hua Jie.

ZPMC/QA Mr. Fo has told this QA that they found linear indication on one of the plate splice they are welding. The plate joint is NSD1-SA415-1B, 75mm plate splice butt joint having partially welded one side then flip it over and back gouged the other side. After gouging, ZPMC personnel ground/cleaned the gouged area and found suspected linear indications 6 inches long at each end of the butt joint. ZPMC wanted to carbon arc the suspected linear indications without verifying first with MT or the extent of the linear indication. However, this QA insisted to do first the MT to verify the existence/extent of the linear indication prior carbon arcing. They finally agreed and called for NDE personnel that kept us waiting until this QA left at 1400Hrs. without NDE showing up.

Bay 7: OBG - Floor Beam Sub Assembly

FCAW(2F) fillet welding on stiffener and flange to web plate FB023-003 weld joints 038/039 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H following WPS-B-T-2132-3 this QA observed. ZPMC welder ID #044830 and ID #044824 were seen performing the task.

This QA also observed ZPMC/NDE perform Magnetic Particle Testing(MT) on fillet weld of floor beam FB012-007-001, CWR-190 that they found acceptable. This QA performed MT on the same weld joint and found deemed acceptable. This floor beam has been green tagged after accepting this repair.

### Summary of Conversations:

No significant conversation occurred 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 Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

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

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