

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-003073**Date Inspected:** 13-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China

<b>CWI Name:</b>	Huang Wen-Pang / Wu Ming Kai			<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>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Tower / OBG		

**Summary of Items Observed:****Bay 3**

This Quality Assurance (QA) inspector arrived at ZPMC in Shanghai China for observation of Orthotropic Bridge Girders (OBG) and Self Anchored Suspension (SAS) Bridge. During this QA inspector's observation in bay 3 it was noted that ZPMC was in process for fit-up at multiple stages on side and bottom plates. ZPMC Certified Welding Inspector Wu Ming Kai was present at the time of observation and this QA inspector spoke with Mr. Kai on the work in process for bay 3. It was stated that tack welding for side, bottom and edge plates were in different stages of fit up. Component numbers EP035-001 and DP046-001, Shielded Metal Arc Welding (SMAW) was observed for the above location being utilized by ZPMC welders Zhang Feng and Yang Gencheng. Multiple stiffeners were being spliced together for side plates using the Submerged Arc Welding (SAW) process under WPS-B-T-3221-B-U3c-S-1 with welder Wu Zhiban also noted was ZPMC performing the back gouging with air carbon arc gouging for the CPP weldments to continue with the Saw welding process. The CWI was monitoring the welding parameters and in process welding throughout this bay assisted by ZPMC Quality Control personnel.

**Bay 4**

During observations by this QA inspector it was noted in bay 4 that ZPMC was performing the Submerged Arc Welding Process (SAW) for diaphragm plate splice using a Complete Joint Penetration (CJP) under WPS-B-T-3221-B-U3c-S-1. The component number which was observed at this location was WSD1-SA287-4B with ZPMC welding personnel Jing Jingteng was performing cover passes at this location. Also noted were ZPMC fabricating internal diaphragm rings welding using the FCAW process in the vertical position (3G). This QA inspector observed 7 rings in multiple stages of fabrication for this location that included "dry Fit" of the rings to perform dimension checks for proper fit and tolerance. This QA inspector observed 2 rings that ZPMC was welding, the component numbers were NSD1-SA276-3B and SSD1-SA335-4A welder observed was Li Meng

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Qian. ZPMC Certified Welding Inspector Zhao Chen Sun was observed as being present during these operations and monitoring the progress and welding parameters, along with the CWI it was also noted that ZPMC had QC personnel to assist the CWI with the monitoring.

## Bay 7

This QA inspector observed ZPMC in bay 7 performing fit up operations in multiple stages for floor beam components. The following floor beams were observed by this QA inspector FB002-005 and FB015-009 being fit using the FCAW process. ZPMC welding personnel Liu Kiage was using approved Welding Procedure Specification (WPS) WPS-B-T-2132-3 for the fit-up of floor beams. The FCAW process was also being used within this bay for production welding of floor beam FB001-005-010 placing the fillet welds for web plate to flanges and web plate to stiffener plates. It was noted that ZPMC's CWI Huang Wen-Pang was present during the welding operations in this bay and monitoring welding parameters and in process progression. Also present to assist Mr. Wen-Pang was ZPMC QC personnel for monitoring.

## Bay 8

This QA inspector observed ZPMC in bay 8 was in the process of grinding diaphragm plate splice for component number ESD1-SA301-11/12B in preparations for the SAW welding process for the CJP weldment. This QA inspector noted that no other work was being performed in this bay for the SFOBB project this date on his shift.



## 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 for your project.

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<b>Inspected By:</b>	Riley, Ken	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

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