

**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-001785**Date Inspected:** 13-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China**CWI Name:** Ye Yong Jun**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:** OBG**Summary of Items Observed:**

Bay 4 Diaphragm Plates

This Quality Assurance (QA) inspector arrived at ZPMC for observation of SAS superstructure fabrication. The components observed this day were diaphragm plate splice that included plates P549(s) to SA335(s). ZPMC was observed placing tack welds in the weld groove for fit-up using Shielded Metal Arc Welding (SMAW) according to Welding Procedure Specification (WPS) WPS-B-7-3211-B-U3b-1. This QA inspector verified welding parameters from ZPMC's welding personnel Li Wen Guo ID number 066261 as follows; 223 amps, 22.4, and a travel speed of 116 mm/min. Preheat and interpass temperatures were monitored by Quality Control/Certified Welding Inspector (QC/CWI) Ye Yong Jun and verified by this QA inspector using temperature indicating markers melting at 180°C but not at 230°C. As ZPMC proceeded with the fit up it was observed that the root gap had increased for approximately 1 meter at the end of the root gap. ZPMC informed this QA inspector By the QC/CWI inspector that they were stopping the fit up process to allow the material to cool and the root gap decrease. They stated that because of the heat input from welding the gap was increasing and they would resume the fit up process in the morning during day shift. This QA inspector verified the root gap to be 2-2.5mm which was within the requirements of the above stated WPS.

Further in the shift this QA inspector performed Visual inspection for Deck Plate DP039-001 (5 ribs) weld 4&5, 8&9 and 10 that were welded by ZPMC. Visual Inspection was determined to have Insufficient Fusion (IF) Over Lap (OL), Under Fill (UF), and Undercut (UC) within the weldments that were inspected. The locations and lengths of the discontinuities were recorded for tracking and distributed to the appropriate personnel for review. This QA inspector received hands on training from QA Inspector Mike Hassler for the Ultrasonic Testing (UT) verification on Partial Joint Penetration (PJP) weldments for the deck plates U-ribs. This QA inspector received training in the following areas; Using calibration blocks with the EDM notch for depth, hands on scanning

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application , lay out and identification of suspect areas that where outside the acceptance criteria. This QA inspector was also trained in the documentation associated with this procedure.

**Summary of Conversations:**

As Noted in the content of the 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
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<b>Reviewed By:</b>	Hager, Craig	QA Reviewer
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