

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-001371**Date Inspected:** 31-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng**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:** Tower mock up assemblies**Summary of Items Observed:**

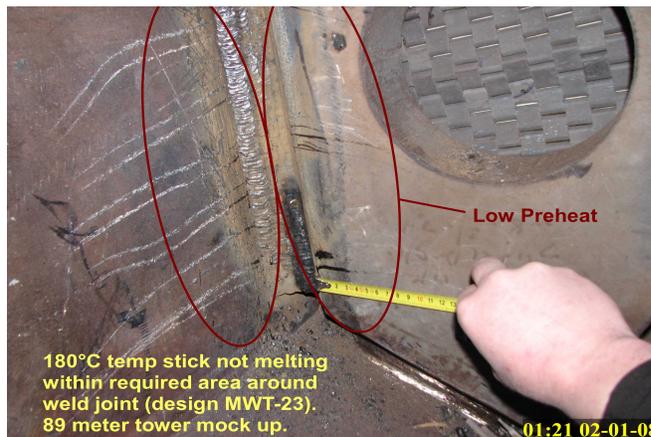
The Caltrans Quality Assurance (QA) inspector, Scott Croff, was present at Zhenhua Port Machinery Company, Ltd (ZPMC) to observe the scheduled mock up construction and production fabrication of the SAS Superstructure.

Tower Shop: The QA inspector observed welding in progress on the 89 meter tower mock up. The QA inspector noted that 2 welders are using shielded metal arc welding (SMAW) to weld the loose diaphragm plates into the corner of the main diaphragm plates and skin plates D and E. The QA inspector made random observations of the work in progress. As the QA inspector was making the random observations, the QA inspector noted that the welding procedure specifications (WPS) that are being used require a minimum preheat temperature of 180°C (the thinnest plate being welded is 75mm thick). The QA inspector noted that CWI Xu Le Feng is the Quality Control (QC) inspector monitoring this welding. The QA inspector noted that Gong Huai Gang is welding with WPS-B-T-3213-B-U2a-1 to make the complete joint penetration (CJP) weld between main diaphragm plate MA-21 and loose diaphragm plate p213. The QA inspector noted that He Shi Bing is welding with WPS-B-T-4313-TC-P4-1 to make the partial joint penetration (PJP) weld between Skin plate E and the other loose diaphragm plate. The QA inspector observed that both welders appear to be using the appropriate electrodes for the WPS requirements. The QA inspector then observed that the base metals on each weld joint appear to have insufficient preheat. The QA inspector used a 180°C temperature indicating crayon and observed that the thickness of the weld joint (75mm) does not appear to conform to the WPS and AWS D1.5 requirements for minimum preheat temperature. The QA inspector also observed that within the required areas to be preheated there was less than 160°C. As the QA inspector was making these observations, the QC inspector was watching and immediately used his temperature gun to confirm that there was insufficient preheat. The QC inspector was observed directing the welders to cease and he informed the QA inspector that the welds would be heated up to the

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required 180°C. The QA inspector noted that induction heaters were then placed onto the weld areas. The QA inspector did not observe any additional welding at these locations. See the attached photos.



Summary of Conversations:

As noted above, the QA inspector Scott Croff had a conversation with the QC inspector Xu Le Feng. After the QA inspector observed the preheat temperatures were not conforming to the WPS requirements, the QC inspector informed the QA inspector that there would be no additional welding until the preheat temperatures were at the required temperature of 180°C. The QA inspector also confirmed this information with the QC Liaison Lay Tau.

The QA inspector Scott Croff wrote an incident report regarding the above mentioned observations. The QA inspector Robert Cuellar was notified of the observations and the incident report. The QA inspector then generated a summary report to be included in the daily shift log. There were no other notable conversations during this shift.

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.

Inspected By:	Croff,Scott	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
