

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-004177**Date Inspected:** 27-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**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**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

South Shaft, Skin E, Lift 2

The Quality Assurance Inspector was informed by ZPMC Quality Control that a root pass in Skin Plate E, South Shaft, lift 2, Longitudinal Splice appears to have a crack like indication observed visually. The Quality Assurance Inspector observed the crack to be approximately eight meters in length. It was relayed ZPMC welded three passes on what will be the interior of the skin plate, flipped the part and performed back gouging operations utilizing the air carbon arc gouging process. After grinding to bright metal ZPMC observed the crack. The Quality Assurance Inspector suggested performing magnetic particle testing prior to repairing the crack. ZPMC relayed it was not necessary and would repair the crack by utilizing the air carbon arc process and grinders. The Quality Assurance Inspector marked the areas where the cracks were observed on the skin plate in order to perform Ultrasonic verification once the weld is completed. Below is a digital photograph of the crack.

South Shaft, Skin B, Lift 1

The Quality Assurance Inspector observed ZPMC performing in process welding of undercut repairs on the longitudinal stiffener to skin plate partial and complete joint penetration connections. Quality Control Inspector Wu Zhi Feng was monitoring the welder. The welders were using the shielded metal arc welding process to produce the repair in the horizontal position. The Quality Assurance Inspector witnessed Quality Control measure the welding parameters at the welder's station and found the parameters to meet the minimum requirements of

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welding procedure specification WPS-B-T-2232-TC-P5-F. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

East Shaft, Skin E, Lift 1

The Quality Assurance Inspector witnessed ZPMC performing magnetic particle testing to the longitudinal stiffener to skin plate partial joint penetration welds. Numerous indications relevant or not were marked for repair. ZPMC grinding personnel followed and ground the indications. Heat straightening operations were taking place simultaneously on other areas of the skin plate.



Summary of Conversations:

As stated in the contents of the above report.

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 Ady Velasco(707) 552 7715, who represents the Office of Structural Materials for your project.

Inspected By:	Bertlesman,Greg	Quality Assurance Inspector
Reviewed By:	Wright,Mark	QA Reviewer
