

**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-004279**Date Inspected:** 23-Oct-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.

The Quality Assurance Inspector generated an incident report pertaining to ZPMC performing heat straightening operations to an Internal Splice Plate identified as ESD1-SA97. ZPMC submitted heat straightening request HSR(T)-205 which stated the maximum deformation was 10 millimeters. QA measured the member to be out of flatness to be approximately 14 millimeters as shown in the digital photographs below.

**East Shaft Lift 1**

The Quality Assurance Inspector observed ZPMC continuing to work in the confined spaces. ZPMC relayed that the fit up and tack welding operations were taking place between the diaphragms and skin E. Approximately 10 ZPMC employees were observed in the shaft.

ZPMC was observed installing temporary fitting aids with the use of 10 ton jacks to aid in the fit-up of skins C to D.

**South Shaft Lift 1**

ZPMC was in the process of removing the 28M, 23M, and 13M diaphragms in order to relocate them. ABF Representative Don Walton stated the three diaphragms were in the wrong location by 10 to 20 millimeters. ZPMC was utilizing the air carbon arc process and grinders to remove the tack welds. ZPMC had installed a 10 ton jack between the 23M diaphragm and the 28M Diaphragm to aid in the fit-up.

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South Shaft, Skin D, Lift 1

ZPMC submitted a request for final MT and green tagging of the connection plates at skin D. ZPMC was in the process of performing the MT when ABF relayed they wanted to cancel the final MT because they wanted there colleague to double check there work and it would be ready this afternoon.

South Shaft, Skin C, Lift 1

Heat Straightening skin plate in progress.

South Shaft, Skin A, Lift 2

The Quality Assurance Inspector observed ZPMC in the process of welding the longitudinal stiffeners to skin plate connection. Quality Control Inspector Ye Yong Jun was monitoring the welders. The welders was using the flux cored arc welding process to produce the complete joint and partial joint penetration welds in the horizontal position. The part was fixed while the multiple welding gantry system is on tracks to facilitate welding along the length of the part. The Quality Assurance Inspector witnessed Quality Control measured the welding parameters at the welders station and found the parameters to meet the minimum requirements of the posted welding procedure specification. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

East Shaft, Skins E and D, Internal Splice Plate Connections

ZPMC was observed The Quality Assurance Inspector observed performing in process welding the above mentioned splice plate connections. Quality Control Inspector Xu Le Fang was monitoring the weldes. The welder was using the flux cored arc welding process to produce the complete joint penetration weld in the flat 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 welding procedure specification WPS-B-T-2232-Tc-U5-F.



## 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 Joshua Ishibashi 137.6471.0411 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Bertlesman,Greg	Quality Assurance Inspector
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<b>Reviewed By:</b>	Wright,Mark	QA Reviewer
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