

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-003170**Date Inspected:** 22-Jun-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:** OBG and 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.

OBG Sub-Assembly Bay 1**Deck Panel Production Welding**

The Quality Assurance Inspector witnessed the welding of the production panels DP-567-001 (3 rib) and DP-571-001 (4 rib). The welding of the deck panels was performed on gantry 1 to produce the partial joint penetration groove weld. Upon completion of the gas metal arc welding (GMAW) root pass ZPMC performed the subsequent submerged arc welding (SAW) pass. The parameters appeared to be within welding procedure specification for dual process WPS-B-T-2342-U1 (U-rib)-3.

ABF Representative Kit Man Li informed QA that ZPMC performed magnetic particle testing to the tack welds on Deck Panel DP-592-001 and marked 11 out of 90 tack welds for repair.

Bay 2

QA observed no ZPMC personnel working on the 114M Tower Mock-up assemblies.

OBG Sub Assembly Bay 3

The Quality Assurance Inspector observed ZPMC performing in process welding of Edge Plate EP-396-001 plate stiffener to edge plate connection. Quality Control Inspector Wu Zhi Feng was monitoring the welder. The

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welders were using the flux cored arc welding process to produce the fillet welds in the horizontal position. The part was stationary on gantry 1 while the welding machine was on tracks to facilitate welding along the length of the part. The Quality Assurance Inspector recorded the welding parameters at the welder's station and found the parameters to meet the minimum requirements of welding procedure specification WPS-B-T-2233-B-U2-F. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations to Edge Plate EP-056-001-001 plate stiffener to plate connection. ZPMC was utilizing the SMAW process to produce the fillet tack welds in the horizontal position.

Bay 4

The Quality Assurance Inspector observed 13 diaphragm flanges in various stages of fabrication from fit-up to welding the complete joint penetration weld splices to the flange to diaphragm fillet weld connection.

The Quality Assurance Inspector observed ZPMC preparing for the welding of Diaphragm Flange ESD1-SA287. ZPMC was utilizing a ceramic preheat system in preparation for the fillet weld flange to diaphragm connection. Below is digital picture illustrating the preheat system.

Bay 7

The Quality Assurance Inspector observed a ZPMC welding operator performing in process welding of Floor Beam FB-029-001. The welder was using the submerged arc welding process to produce the complete joint penetration welds in the flat position. The Quality Assurance Inspector recorded the welding parameters at the welder's station and found the parameters to meet the minimum requirements of welding procedure specification WPS-B-T-2221-B-L2c-S-1. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations to FB-009-001 and FB-010-001. The welders were using the shielded metal arc welding process to produce the fillet tacks welds in the horizontal position.

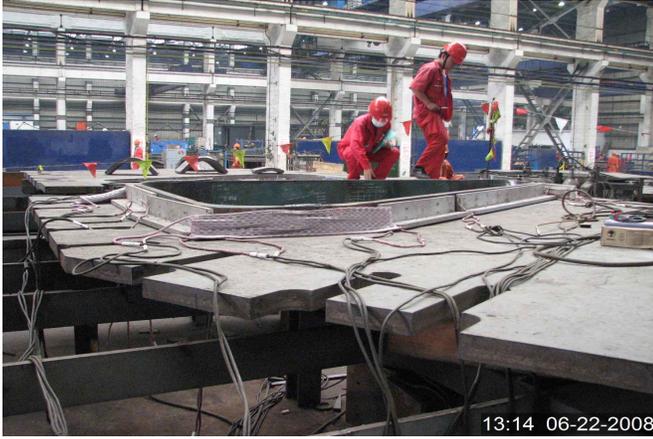
Bay 8

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations to various floor beam sub assemblies.

The Quality Assurance Inspector observed a ZPMC welding operator 045240, performing in process welding Diaphragm Flange ESD1-SA32 butt splice. The welder was using the flux cored arc welding process to produce the complete joint penetration welds in the vertical position. The Quality Assurance Inspector recorded the welding parameters at the welder's station and found the parameters to meet the minimum requirements of welding procedure specification WPS-B-T-2233-Bu3-F. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

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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:	Cochran,Jim	QA Reviewer
