

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-002660**Date Inspected:** 22-May-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**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.

Production Monitoring Test

The Quality Assurance Inspector monitored the Production Monitoring Tests (PMT) and production welding for the OBG Deck Panels U-rib welding. The weld joint is a single bevel Partial Joint Penetration (PJP) weld that joins the U-rib to the deck plate. The Production Monitoring Test (PMT) is performed prior to the production of the Deck Panels (DP). PMT #1 consists of (3) ribs totaling (6) weld joints, numbered 1 thru 6. Welding was performed on

Gantry 1 and represents production for Deck Panels DP-584-001 and DP-549-001. Welding was performed in accordance with welding procedure specification WPS-B-T-2342 (Dual Process GMAW root pass SAW fill and cover pass). The parameters and welders were recorded in an on site log for future review.

ZPMC Quality Control performed visual inspection of the GMAW weld pass and the subsequent SAW weld pass. ZPMC QC noted the welds as visually compliant. ZPMC QC also performed Ultrasonic Testing of the 500 millimeters selected of each weld and noted them as compliant. The Quality Assurance Inspector performed visual verification the GMAW weld pass and the SAW weld pass and noted them as compliant with contract documents. Upon completion of the visual review the Quality Assurance Inspector selected the areas of the PMT for macro etch samples.

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The previous day, the Quality Assurance Inspector randomly performed a visual inspection of the closed rib partial joint penetration tack welds. The Quality Assurance marked 15 tack welds which contained cracked tack welds. ZPMC ground the welds and Quality Control Inspector Sun Wei stated the indications were removed. The Quality Assurance Inspector asked if ZPMC performed magnetic particle verification to the repaired cracks. Sun Wei stated they have not but will do prior to welding. The Quality Assurance Inspector witnessed ZPMC magnetic particle technician Wang Wei perform magnetic particle testing to only the 15 tack welds marked by the Quality Assurance Inspector. Of the 15 marked, 12 still contained linear indications indicative of cracks. ZPMC ground the indications and retested. Below are digital photographs of the magnetic particle indications.



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 Patrick Lowry (916) 227-5719, who represents the Office of Structural Materials for your project.

Inspected By:	Bertlesman,Greg	Quality Assurance Inspector
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Reviewed By:	Cuellar,Robert	QA Reviewer
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