

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-003340**Date Inspected:** 17-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**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.

OBG Assembly Bay

Segment 4AE – The Quality Assurance Inspector observed ZPMC grinding the reinforcement of Longitudinal Diaphragm Plate LD-001-001 to Floor Beam FB-016-004 complete joint penetration weld T joint. The weld was previously rejected by ZPMC after performing Ultrasonic Testing.

Segment 4BE – No ZPMC personnel was observed working on segment 4BE.

Segment 5BW – The Quality Assurance Inspector witnessed two ZPMC welding operators performing in process welding of Side Panel SP-146-001 to Bottom Panel BP-084-001. The welders were utilizing the shielded metal arc welding process to produce the complete joint penetration weld in the overhead position. QA observed the lack of grinding that took place prior to welding of the back gouged excavation. The back gouged excavation was performed by the air carbon arc process. AWS D1.5 2002 section 3.2.6 states “Where any carbon arc gouging or cutting is involved, proper arc gouging procedures shall be used to avoid the retention of carbon deposits and material or dross in the areas which are to be welded. Air carbon arc gouged surfaces shall be ground to bright metal. The Quality Assurance Inspector generated an incident pertaining to the discrepancy. Below is a digital photograph illustrating the discrepancy.

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Segment 3AW – The Quality Assurance Inspector witnessed a ZPMC welding operator performing in process tack welding of Side Panel SP-019-001 to Floor Beam FB-001-002. The welder was utilizing the shielded metal arc welding process to produce the tack welds in the horizontal position.

The Quality Assurance Inspector observed ZPMC performing in process welding of Side Panel SP-069-001 to Floor Beam FB-021-001. Quality Control Inspector C.H. Chang was monitoring the welder. 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 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-Tc-u4b-F. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

The Quality Assurance Inspector witnessed where ZPMC added metal backing to the web splice of nine Side Panels identified as SP-019-001. ZPMC QC relayed the addition was due to excessive root openings. The backing was tacked to the parts within the groove in a substandard manor as illustrated in the digital photograph below. ZPMC added the backing would be removed and the joints would be back gouged.



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: Lanz,Joe

QA Reviewer