

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-001893**Date Inspected:** 23-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Wei Qing, Sha Zhi**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/Tower**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

Bay 7-OBG - Floor Beam Repair B-WR132:

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Zhang Qing Quan ID #0044774 fillet welding FB008-02-045. Mr. Zhang was observed welding in the 2G (horizontal) position utilizing a Flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA Inspector Brannon observed the ZPMC QC CWI Inspector Huang Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Huang Wei Qing to be: preheat temperature of 121°C and welding parameters amps of 287, volts of 31, a travel speed of 535 mm/min and a gas flow of 21L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-345-FCAW 2G FCM Repair.

Bay 7-OBG - Floor Beam Repair B-WR133:

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Zhang Qing Quan ID #0044774 fillet welding FB008-03-045. Mr. Zhang was observed welding in the 2G (horizontal) position utilizing a Flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA Inspector Brannon observed the ZPMC QC CWI Inspector Huang Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA

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Inspector observed preheat and welding parameters measured by the QC CWI Inspector Huang Wei Qing to be: preheat temperature of 121°C and welding parameters amps of 265, volts of 29.3, a travel speed of 522 mm/min and a gas flow of 21L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-345-FCAW 2G FCM Repair.

Bay 7-OBG - Floor Beam:

QA Inspector Brannon randomly observed a ZPMC welders welding various floor beam fillet and groove welding in different stages for the floor beam sub assemblies. The welder's was using the shielded metal arc welding (SMAW) and flux cored arc welding (FCAW) process to produce the fillet and groove welds in the flat and horizontal position. QA Inspector Brannon observed the ZPMC QC CWI Inspector Huang Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS).

Bay 7-OBG - Floor Beam:

QA Inspector Brannon randomly observed ZPMC qualified welders, tack welding various floor beam diaphragm to flange plates using a shield metal arc welding (SMAW) process.

Bay 8-Tower Diaphragm 47.6 Meter:

QA Inspector Brannon randomly observed ZPMC qualified welder Mrs. Wang Lanying ID #0452565 groove welding joining SA326(S) to P632(S) weld joint SSD1 SA326-1B fill pass. Mrs. Wang was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.0mm diameter electrode, filler metal brand LA-85, class MIL800-HPNI, machine. QA Inspector Brannon observed the ZPMC QC CWI Inspector Xu Bing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Xu Bing to be: preheat temperature of 180°C and welding parameters amps of 600, volts of 31.4, and a travel speed of 480. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-3221-B-U3c-S-1.

Bay 8 – 38 Meter Diaphragm

QA Inspector Brannon randomly observed ZPMC personnel performing heat straightening diaphragm plate SA227 (S). ZPMC report #HSR1 (T)-188-1st lift, 38M top SA227 (S). Cause for heat straightening mill induced distortion. Heat Straightening is performed by flame straightening by natural gas using a hand torch.

The following digital photograph below illustrates observation of the activities being performed.

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Summary of Conversations:

As stated within the 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Brannon, Sherri	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer
