

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-001894**Date Inspected:** 22-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, Xu Bing**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:**

QA Inspector Brannon randomly observed a ZPMC welders welding various floor beam in different stages. The welder's was using the shielded metal arc welding (SMAW) and flux cored arc welding (FCAW) process to produce the fillet 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 floor beam diaphragm to flange plates for FB014-03-21 & 001 using a shield metal arc welding (SMAW) process.

**Bay 8-Tower Diaphragm 28 Meter:**

QA Inspector Brannon randomly observed ZPMC qualified welder Mrs. Ma Ying ID #045270 groove welding joining SA334(N) to P248(N) weld joint NSD1 SA334-1B/2B fill and cover pass. Mrs. Ma 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

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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 608/615, volts of 31.0/30.8, and a travel speed of 479/480 respectively. 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-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 SA326-1A 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 597, volts of 29.0, 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)-127-1st 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.

Bay 8

QA Inspector Brannon called ABF Jeff Evans to help identify material being welded in Bay 8. The material had the ZPMC job #787 and GGL-JZGT. ABF Jeff Evans stated to QA Inspector Brannon that the GGL-JZGT is a number that ZPMC is assigning to material that is for temporary use in the building of jigs and tables for the purpose assisting in the assembly process. Mr Evans stated the the material in Bay 8 is for ZPMC to build a temporary double diaphragm table.

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



## Summary of Conversations:

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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.

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<b>Inspected By:</b>	Brannon, Sherri	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer

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