

**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-002715**Date Inspected:** 29-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Chih-Ming / Liu Huaie**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 side and bottom panels and tower skin p**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG new assembly bay 2

QA observed ZPMC qualified welding personnel perform SAW welding on BP-006 to SP-029 joint# SEG-014A-031 following the guide lines of WPS# WPS-B-T-223(2)-1T. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 32.5 Amps: 665 Travel speed: 580mm/min

QA observed ZPMC personnel fitting floor beam FL1 south to FL2-1 and FL2-2 at PP-23 segment 3BW (SEG 15).

QA noted that ZPMC welding personnel had been FCAW welding the splice joint joining deck panels DP-018-002 to DP-020-001. QA was unavailable to monitor welding parameters prior to the completion of the welding operation for the evening.

QA observed ZPMC qualified welding personnel perform second time (R2) weld repairs to 17 areas on BP-003 to BP-002 joint# SEG-13A-004 following the guide lines of repair WPS# WPS-345-FCAW-1G-FCM-Repair

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ZPMC repair report# B-WR383. The weld defects were discovered using Ultrasonic Testing (UT) equipment. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 29 Amps: 292 Travel speed: 531mm/min

Other general observations include ZPMC personnel grinding side and bottom panels and weld bevel prep.

New Tower Bay 1

QA observed ZPMC qualified welding personnel perform SAW welding on skin plate joint# SSD1-SA173K/K-6, 13B, 4, 12B, 11B, 2, and 9B following the guide lines of approved WPS# WPS-B-T-2321-B-P3-S, WPS-B-T-2321-B-P3-S-1, WPS-B-T-2221-B-U3c-S and WPS-B-T-2221-B-U3c-S-1. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 33.5 Amps: 690 Travel speed: 615mm/min

QA observed ZPMC qualified welding personnel perform SAW welding on skin plate joint# SSD1-SA159A/J-11A following the guide lines of approved WPS# WPS-B-T-2221-B-U3c-S and WPS-B-T-2221-B-U3c-S-1. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 32.8 Amps: 680 Travel speed: 580mm/min

QA observed ZPMC qualified welding personnel perform SAW welding on skin plate joint# SSD1-SA173J/K-9A, 5 and SSD1-SA173K/K-1, 11A, 12A and 13A following the guide lines of approved WPS# WPS-B-T-2221-B-U3c-S, WPS-B-T-2221-B-U3c-S-1, WPS-B-T-2321-B-P3-S-1 and WPS-B-T-2321-B-P3-S. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 32.7 Amps: 690 Travel speed: 580mm/min

New Tower Bay 2

QA observed ZPMC qualified welding personnel perform SAW welding on tower skin plate joint ESD1-SA107E/J-14A following the guide lines of WPS# WPS-B-T-2221-B-U3c-S-1 and WPS-B-T-2221-B-U3c-S. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

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Volts: 32.8 Amps: 639 Travel speed: 615mm/min

QA observed ZPMC qualified welding personnel perform SAW welding on tower skin plate joint ESD1-SA237A/F-24A following the guide lines of WPS# WPS-B-T-2221-B-U3c-S-1 and WPS-B-T-2221-B-U3c-S. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 32.8 Amps: 645 Travel speed: 590mm/min

Other general observations in the New Tower bays include weld bevel preparation, flame straightening, CNC parts cutting, hole drilling and grinding.



### Summary of Conversations:

Only general conversations were held between QA and QC concerning this project.

### 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 (858)-344-2712, who represents the Office of Structural Materials for your project.

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

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