

**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-007632**Date Inspected:** 28-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**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 and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Zhu Zhong Hai, Mr. Zhan Bo.

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

Prior to Caltrans QA Inspectors' concurring with issuance of OBG deck plate closed rib green tag releases a review of the ultrasonic inspection database is performed to verify all closed rib tack weld repair locations have been ultrasonically accepted. Today this QA Inspector, Mr. Paul Dawson, performed data entry of ultrasonic inspection information from the field generated Ultrasonic inspection data sheets onto the common drive computer database for the following OBG deck panels: DP127-001, DP128-002, DP425-001 and DP480-001.

**Tower Bay 10**

This QA Inspector observed ZPMC welder Mr. Ma Yusheng, stencil 040759 is using flux cored welding procedure WPS B-T-2232-TC-U5-F to make stiffener to skin plate weld WSD1-FASA4-2E/E-4B. This QA Inspector observed that the base material where the welding is appears to have been preheated to a minimum of 110 degrees Celsius as required by the welding procedure. This QA Inspector measured a welding current of 310 amps and 33.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Wanh Yin Sheng, stencil 040775 is using flux cored welding procedure WPS B-T-2232-TC-U5-F to make stiffener to skin plate weld WSD1-FASA4-2E/E-14B. This QA Inspector observed that the base material where the welding is appears to have been preheated to a minimum of 110 degrees Celsius as required by the welding procedure. This QA Inspector measured a welding current of 310 amps and 31.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Zhaoqian, stencil 048810 is using flux cored welding procedure WPS B-T-2232-TC-U5-F to make stiffener to skin plate weld WSD1-FASA4-2E/E-83B. This QA Inspector observed that the base material where the welding is appears to have been preheated to a minimum of 110 degrees Celsius as required by the welding procedure. This QA Inspector measured a welding current of 330 amps and 31.3 volts. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Ye Shen Jun, stencil 203871 is using flux cored welding procedure WPS-B-T-2132 to make fillet weld CSD4-PP93-037. This QA Inspector measured a welding current of approximately 330 amps and 31.0 volts. This QA Inspector observed Quality Control (QC) personnel monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Chaili stencil 045203 is using flux cored welding procedure WPS-B-T-2231-B-U2-F to make groove weld SEG055A-002 root pass. This QA Inspector observed Ms. Chaili is qualified to make this weld, the base material has been preheated with electric heating elements. This QA Inspector measured a welding current of approximately 280 amps and 30 volts. Items observed by this QA Inspector appear to comply with project specifications.

This QA Inspector performed random visual inspections of the fitup of groove weld SEG057A-006 between baseplates BP047A and BP155A. These two plates have been tack welded together. It appears that the maximum root gap between these plates is approximately 4mm and the weld bevels have been ground to an angle that appears to comply with project specifications.

This QA Inspector observed ZPMC welder Mr. Liu Dong, stencil 046467 is using the shielded metal arc welding process to tack weld SSD16-PP62-004 between floor beam FB010-010 and DP470-001 diaphragm plate. The QA Inspector observed Mr. Liu Dong is certified to make this weld and that he is using a welding current of approximately 150 amps. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 19

This QA Inspector observed ZPMC welder Mr. Wang Cheng Long, stencil 045203 had been using the flux cored welding process to make weld repairs on suspender bracket SB004-010. This QA Inspector observed the spool of flux cored welding electrode wire in the flux cored welding machine has a hand written date of June 6, 2009 and a time of 0700 hours. This QA Inspector asked Mr. Peng Wen Jun when this spool of date had last been used and

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Mr. Peng Wen Jun said the spool of flux cord welding electrode wire will be replaced with a new spool of electrode wire.

This QA Inspector observed there does not appear to be any ZPMC Quality Control personnel in bay 19. This QA Inspector asked ABF representative Mr. Peng Wen Jun which QC Inspector has been monitoring this welding and Mr. Peng Wen Jun said the QC Inspector has gone home. This QA Inspector informed Mr. Peng Wen Jun that all welding needs to be periodically monitored by QC Inspectors. One of the ZPMC supervisors made several phone calls and Mr. Jun then informed this QA Inspector that no additional welding will take place on this shift.

**Summary of Conversations:**

See above.

**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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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