

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-006963**Date Inspected:** 30-Apr-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. Wu Ming Kai, Mr. Guo Yan Fei, Mr. Wu Zhi Fong

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. The 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: DP393-001, DP175-001, DP443-001, DP179-001, DP206-001 and DP152-001.

**OBG Bay 6**

The QA Inspector observed ZPMC welder Mr. Guy Tiyong, stencil 205386 is using flux cored welding process WPS-B-T-2231-B-U2-F-1 to make groove tack welds on OBG Cross Beam weld CB202B-008-002. The QA Inspector observed a welding current of approximately 310 amps, 29.5 volts and the base material where the tack welding is being made had been preheated with a torch. Items observed by the QA Inspector appear to comply with project specifications.

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

---

The QA Inspector observed ZPMC welder Mr. Guo Tiyong, stencil 205386 is using flux cored welding process WPS-B-T-2231-B-U2-F-1 to make a groove tack weld on OBG Cross Brace weld CB202B-008-002. The QA Inspector observed a welding current of approximately 310 amps, 29.5 volts and the base material where the tack welding is being made had been preheated with a torch. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Zhang Liang, stencil 209554 is using flux cored welding process WPS-B-T-2231-B-U2-F-1 to make a groove weld on Tower Cross Brace weld CB3-30-33. The QA Inspector observed a welding current of approximately 285 amps, 29.6 volts and the base material where the tack welding is being made had been preheated with an electric heating element. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Lei Wei Wen, stencil 019006 is using flux cored welding process WPS-B-T-2231-B-U2-F-1 to make a groove weld on OBG Cross Brace weld CB3-30-35. The QA Inspector observed a welding current of approximately 300 amps, 30.3 volts and the base material where the tack welding is being made had been preheated with an electric heating element. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Dong Youjin, stencil 066416 is using shielded metal arc process WPS-B-P-3312-TC-P5 to make tower double diaphragm weld WSD1-DPSA4-5A. The QA Inspector observed QC Inspectors have recorded a welding current of approximately 260 amps and the base material where the weld is being made had been preheated with an electric heating element. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Du Henghua, stencil 037779 is using shielded metal arc process WPS-B-P-3312-TC-P5 to make tower double diaphragm weld WSD1-DPSA4-5B. The QA Inspector observed QC Inspectors have recorded a welding current of approximately 250 amps and the base material where the weld is being made had been preheated with an electric heating element. Items observed by the QA Inspector appear to comply with project specifications.

OBG Bay 14

This QA Inspector performed random magnetic particle (MT) inspections of OBG side plate welds SP307-001-021, SP307-001-022, SP334-001-039, SP334-001-040, SP426-001-001, SP426-001-002, SP361-001-012 and SP361-001-013. These welds had previously been MT inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were MT inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6028 Magnetic Particle Test Report.

OBG Bay 9

This QA Inspector observed ZPMC welder Mr. Hu Yongcang, stencil 059443 is using flux cored welding procedure WPS-345-FCAW-2G(2F)-Repair-1 to make repairs to OBG deck plate DP539-001-002 closed rib welds.

---

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

---

The QA Inspector observed a welding current of 290 amps, 29.5 volts the base material had been preheated using a torch. The QA Inspector observed ZPMC Quality Control Inspection personnel monitoring this welding. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.



### 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.

---

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

---