

**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-006970**Date Inspected:** 06-May-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. Tu Jin, Mr. Zhang Zhineng, Mr. Chen Xi

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: DP206-001, DP502-001, DP367-001, DP476-001, DP395-001, DP126-001, DP339-001, DP339-002, DP123-001 and DP288-001.

**Outside OBG Assembly**

This QA Inspector performed random magnetic particle (MT) inspection of OBG splice weld OBW4A-003 between OBG 4AW and OBG 4BW. This weld had previously been MT inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the weld that was MT inspected by this QA Inspector appears to comply with project specifications. For additional information on this inspection see the TL6028 Magnetic Particle Test Report.

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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Tower Bay 10

This QA Inspector observed ZPMC welder stencil 209051 is using welding procedure specification WPS-B-T-2221-B-3C-2-S to make submerged arc groove weld NSD1-A112 B/H-49A. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding and this QA Inspector measured a welding current of approximately 690 amps and 31.6 volts. The QA Inspector observed QC has recorded a travel speed of 513 mm per minute. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Liu Xiaoyan, stencil 207745 is using welding procedure specification WPS-B-T-2221-B-3C-2-S to make submerged arc groove weld NSD1-A112 B/H-450A. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding and this QA Inspector measured a welding current of approximately 675 amps and 31.5 volts. The QA Inspector observed QC has recorded a travel speed of 520 mm per minute. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Mr. Zhang Kun, stencil 250253 is using welding procedure specification WPS-B-T-2212-TC-U5B to complete shielded metal arc tack weld NSD1-FESA-3-1BD-20A. The QA Inspector observed that the base material where the tack weld was made had been preheated with a torch to above 110 degrees Celsius and a ZPMC QC Inspector is monitoring this welding. The QA Inspector measured a welding current of approximately 170 amps. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Mr. Liu Gaoliang, stencil 040475 is using welding procedure specification WPS-B-T-2212-TC-U5B to complete shielded metal arc tack weld NSD1-FESA-3-1BD-20B. The QA Inspector observed that the base material where the tack weld was made had been preheated with a torch to above 110 degrees Celsius and a ZPMC QC Inspector is monitoring this welding. The QA Inspector measured a welding current of approximately 155 amps. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Ms. Dong Yuqin, stencil 053116 is using flux cored welding procedure WPS B-T-4333-TC-P5-F to make South Tower Lift 2 diaphragm plate to corner plate weld SSD1-TL5-G/L-160. The QA Inspector observed the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding. The QA Inspector measured a welding current of 230 amps and 20.3 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Ms. Dong Yumei, stencil 054069 is using flux cored welding procedure WPS B-T-4333-TC-P5-F to make South Tower Lift 2 diaphragm plate to corner plate weld SSD1-TL5-G/L-136. The QA Inspector observed the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding. The QA Inspector measured a welding current of 200 amps and 20.6 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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## 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>	Clifford,William	QA Reviewer

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