

**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-006110**Date Inspected:** 31-Mar-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**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:** Tower Fabrication**Summary of Items Observed:**

CWI Inspector: Mr. Zhu Zhong Hai

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:

The QA Inspector observed ZPMC welder Mr. Zhang Baodao, stencil 062738 is using welding procedure WPS-B-T-2232-TC-U42-F to make flux cored bikepath groove weld BK004A6-004-002. The QA Inspector measured a welding current of approximately 300 amps and 34.4 volts. The WPS lists a maximum welding voltage of 32.0 volts and Mr. Baodao appears to be welding with excessive voltage. In order to inform ZPMC QC Inspector Mr. Hu Tao the QA Inspector left the area where Mr. Baodao was welding and when the QA Inspector returned with Mr. Hu Tao to the location of this weld ZPMC CWI Mr. Zhu Zhong Hai had measured and adjusted the welding machine to have a current of approximately 300 amps and 30.5 volts. Items observed by the QA Inspector do not appear to fully comply with project specifications.

This QA Inspector performed random ultrasonic inspections of approximately 10 percent length of OBG Bottom Plate welds BP025-005-001, BP025-005-002, BP025-005-003, BP026-004-001, BP026-004-002, BP026-005-004, BP026-006-001, BP026-006-002 and BP026-006-003. These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed weld BP025-005-003 appears to have a class "A" ultrasonic rejection near the root of the weld. The QA Inspector informed ZPMC QC representatives Mr.

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Hu Tao and Mr. Lay Tao that weld BP025-005-003 appears to have a class “A” ultrasonic indication and ZPMC ultrasonic Inspectors later confirmed there is a class “A” indication in the root of the weld. ZPMC personnel ground the weld reinforcement on the back side of the weld to a flush condition in an attempt to eliminate the ultrasonic indication. Following this grinding the ZPMC ultrasonic Inspectors observed the class “A” had not been eliminated and the class “A” indication still existed in the weld. ZPMC QC Inspector Mr. Hu Tao informed the QA Inspector ZPMC will perform a weld repair of this ultrasonic rejection. The other welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

The QA Inspector observed ZPMC welder Mr. Ah Aihua, stencil 062816 is using submerged arc welding procedure specification WPS-B-F-2221-B-L2C-S-2 to make bikepath groove butt weld BK004A1-007-009. The QA Inspector observed ZPMC Quality Control personnel measuring Mr. Ah Aihua having a welding current of approximately 680 amps and 31.0 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Sun Zhaowen, stencil 062735 is using welding procedure WPS-B-T-2232-TC-U42-F to make flux cored bikepath groove weld BK004A1-004-006. The QA Inspector measured a welding current of approximately 300 amps and 30.5 volts. The QA Inspector observed ZPMC QC personnel monitoring this welding and that the base material has been preheated with a torch. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Yang Youn, stencil 062807 is using welding procedure WPS-B-T-2232-TC-U42-F to make flux cored bikepath groove weld BK004A8-004-002. The QA Inspector observed ZPMC QC personnel measured a welding current of approximately 295 amps and 30.0 volts. The QA Inspector observed that the base material has been preheated with a torch. Items observed by the QA Inspector appear to comply with project specifications.

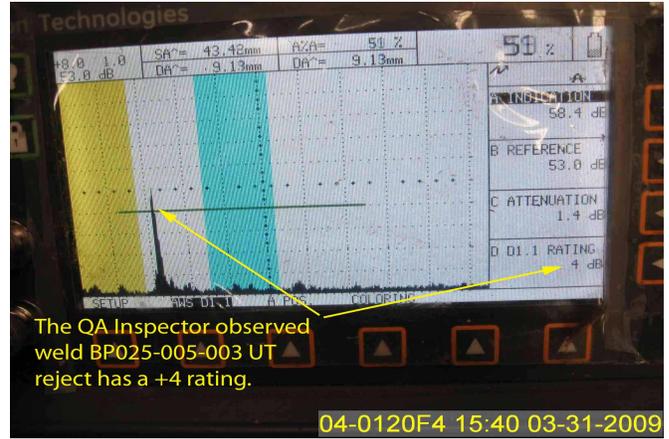
This QA Inspector performed random magnetic particle (MT) inspections of approximately 10 percent length welds of bikepath assemblies BKX8A, BKX10A, BKX8C, BKX9A and BKX9C on the following bikepath box panels: BK004A6-005, BK004A6-006, BK004A7-005 and BK004A6-006. These welds had previously been MT inspected 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.

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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 Serge Sinevod phone: 134-8257-0045 , 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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