

**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-004008**Date Inspected:** 15-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**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 & OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**OBG Bay 2:**

The QA Inspector randomly observed 6 ZPMC machine operators utilizing magnetic drills and templates, to place bolt holes in OBG connection plates.

**OBG Bay 3:**

The QA Inspector randomly observed ZPMC welder Wang Hong Bo ID Number 203206, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC Weld Procedure Specification (WPS) WPS-2112-FCM, to tack weld T-Ribs to Plate BP171-001 Weld Joint (WJ) Numbers 007/008. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Chen Zhi Jian, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Lei Ming ID Number 205774, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/ Horizontal Fillet) Positions with ZPMC WPS WPS-B-T-2232-U4b-F-1 (2G) and WPS-B-T-2132-3 (2F), to weld I-Stiffener X1067 to Edge Plate EP034-001 WJ's 061 (2G) and 063 (2F). The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Chen Zhi Jian, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters

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and recorded them as follows: 295 amps, 28.2 volts with a travel speed of 463 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Ji JIngang ID Number 205771, utilizing the FCAW Process in the 2F Horizontal Fillet Position with ZPMC WPS-B-T-2132-3 (2F), to weld I-Stiffener to Edge Plate EP034-001 WJ 073. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Chen Zhi Jian, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 312 amps, 29.3 volts with a travel speed of 443 mm per minute. The weld parameters appeared to comply with contract requirements.

OBG Bay 4:

The QA Inspector randomly observed ZPMC Torch Cutting Operators utilizing track mounted torch cutting apparatus to cut bevels on the edges of the lower section (SA287), of 23M (E) Tower Diaphragm.

The QA Inspector randomly observed ZPMC welders Ge Hongqi ID Number 037780, Tan Xiangbo ID Number 066459, Liao Yan Fei ID Number 066398 and Zhang Quan Fa ID Number 066326, utilizing the SMAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-3312-TC-P5, to weld web plates to 43M Bottom(W) Tower Diaphragm SA268 at WJ's WSD1-SA234B/B-3/4. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Xu Xian Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Yan Gencheng ID Number 066418, utilizing the SMAW Process in the 2G (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-SMAW-2G(2F)-Repair, to perform a Critical Weld Repair to Side Plate SP407-001-032 at WJ 032 per ZPMC Critical Weld Repair B-CWR158. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Xu Xian Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Dou De Xiang ID Number 048800, utilizing the SMAW Process in the 1G (Flat Groove/Flat Fillet) Positions with ZPMC WPS WPS-485-SMAW-1G(1F)-Repair, to perform a base metal repair to Tower Diaphragm Web Plate piece mark p243. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Xu Xian Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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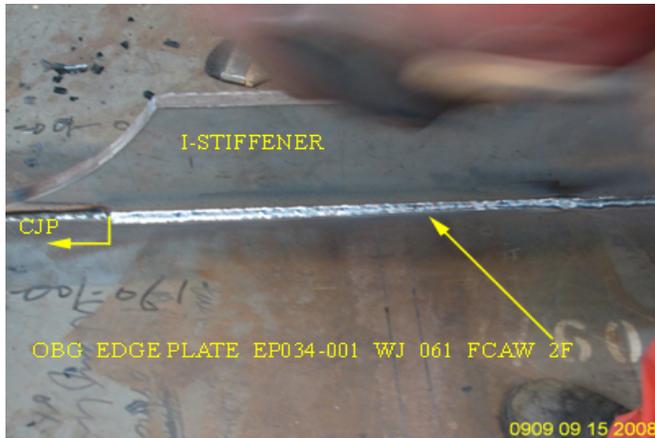
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## Summary of Conversations:

As noted in the above body of this report.

## 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 Ady Velasco 13816942685, who represents the Office of Structural Materials for your project.

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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Carreon,Albert

QA Reviewer