

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-003872**Date Inspected:** 06-Aug-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:** Sun Wei, Wu Ming Kai**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**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 1:**

The QA Inspector randomly observed ZPMC welders Gao Xin Dong ID Number 059361, Jiang Ting Guang ID Number 062265, Zhang Shao Wei ID Number 059403 and Che, utilizing Gantry 2 mounted welding apparatus with the Gas Metal Arc Welding (GMAW) Process in the 2G (Horizontal Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2342-U1(U-Rib)-3, to weld the root pass of the U-Ribs to 5 Rib Deck Plate Sub-Assembly 7EE-DP442-001 at Weld Joint (WJ) Numbers DP442-001-003/004(U-232) and 007/008(U-231). The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 378/382 amps, 30.5/30.3 volts (WJ's 003/004) for Mr. Gao/Mr. Jiang; 377/379 amps, 31.2/30.6 volts (WJ's 007/008) for Mr. Zhang/Mr. Chen with a travel speed of 526 millimeters (mm) per minute for all welders. The weld parameters appeared to comply with contract requirements. The attached photographs provide additional detail.

The QA Inspector randomly observed ZPMC welder Han Canghou ID Number 059464 utilizing the Flux Cored Arc Welding (FCAW) Process with ZPMC WPS WPS-B-T-2133, to fit up and tack weld 8 mm diaphragms in various deck plate U-Ribs. The QA Inspector randomly observed ZPMC QC monitoring weld parameters.

OBG Bay 2; No contract welding being performed.

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OBG Bay 3:

The QA Inspector randomly observed ZPMC welder Guo Dengyun ID Number 037997 utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-P-2112-FCM, to tack weld 35 mm I-Ribs to Deck Plate Sub-Assembly DP633-001 WJ's 001/002. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Qie Jianzhou ID Number 067571 utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-P-2112-FCM, to tack weld 35 mm I-Ribs to Deck Plate Sub-Assembly DP629-001 WJ's 005/006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Sun Ti Yu ID Number 054459 and Liu Zi Wang ID Number 062447, utilizing gantry mounted welding apparatus with the FCAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2132-3, to weld 35 mm I-Ribs to 3-Rib Deck Plate Sub-Assembly DP362-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 297/301 amps, 30.3/29.7 volts (WJ's 001/002 for Mr. Sun and 297/300 amps, 29.8/30.1 volts (WJ's 005/006) for Mr. Liu with a travel speed of 438 mm per minute for both welders. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Gu Caihong ID Number 053784 utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-3221-U3c-S-1, to weld the butt splice in a 35 mm I-Rib for Deck Plate Sub-Assembly DP515-001 WJ's . The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 592 amps, 29.7 volts with a travel speed of 452 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Sun Ti Yu ID Number 054459 and Liu Zi Wang ID Number 062447, utilizing gantry mounted welding apparatus with the FCAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2132-3, to weld 35 mm I-Ribs to 3-Rib Deck Plate Sub-Assembly DP626-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 295/298 amps, 30.2/30.1 volts (WJ's 001/002 for Mr. Sun and 295/293 amps, 30.3/29.7 volts (WJ's 005/006) for Mr. Liu with a travel speed of 440 mm per minute for both welders. The weld parameters appeared to comply with contract requirements.

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

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