

**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-007046**Date Inspected:** 26-Feb-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:** Sun Wei / Sun Bo**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 Components**Summary of Items Observed:**

The Caltrans (CT) 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 Sub-Assembly Bay 12:**

The QA Inspector randomly observed 4 magnetic drill operators and 2 helpers, utilizing magnetic drills with hole saw bits, to cut bolt holes in connection plates piece marks A158 (A709 GR 485 T=40).

The QA Inspector randomly observed 8 ZPMC helpers utilizing angle grinders to excavate areas previously marked up after Ultrasonic Testing (UT) Examination, in WJ's 001 through 010 in Deck Plate 7BW-DP169-001.

The QA Inspector randomly observed ZPMC welder Liu Xie ID 066236, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2G (Horizontal Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-345-SMAW-2G(2F)Repair-1 to weld R5 repairs to WJ 009, attaching a T=35 mm I-Rib to the base plate on Deck Plate 1AW-DP540-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend areas in WJ 001 through 006 after repairs in Deck Plate 7EE-DP307-001.

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The QA Inspector randomly observed ZPMC welders Xia Jun ID 068253 and Jiang Jin Yong ID 060361, utilizing the SMAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-345-SMAW-2G(2F)Repair-1 to weld R2 repairs to WJ's 015 (B-WR2502) and 011 B-CWR360) respectively, attaching T=35 mm I-Ribs to the base plate on Deck Plate 1AW-DP555-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 1 ZPMC helper utilizing a pencil grinder to shape the copes in the area at the attachment of the T=35 mm I-Ribs to the U-Rib Closure Diaphragm on Deck Plate 1AW-DP570-001.

The QA Inspector randomly observed ZPMC welders Xu Guo Yin ID 059443 and Xiang Huan Feng ID 059416, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW-2G (2F)-Repair-1 to weld repairs in WJ 004 and 008 respectively, attaching U-Ribs to Deck Plate 7BW-DP169-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xia Jun ID 068253, utilizing the SMAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-345-SMAW-2G(2F)Repair-1 to weld R2 repairs to WJ 017 attaching a T=35 mm I-Rib to the base plate on Deck Plate 1AW-DP575-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed that a section of the backing bar had been removed behind the weld seam between a U-Rib Extension and a U-Rib at WJ 019 on Deck Plate 1AW-DP545-001. The QA Inspector also randomly observed that ZPMC had attempted to repair this area with welding. This area is not in compliance with Contract Specifications Section 3.12.2 of AWS D1.5-2002. This area had been previously observed by QA on the night shift 03-25-09.

QA Inspector Lot Number B216 generated an Incident Report for this non-compliance on 03-26-09.

OBG Assembly Bay 14:

The QA Inspector randomly observed ZPMC welder Wang Lan Ying 045265, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2 to weld the seam at WJ SEG004 between Deck Plates DP585A and DP605A. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also monitored weld parameters and recorded them as follows: 573 amps, 30.3 volts with a travel speed of 445 mm per minute. Weld parameters appeared to comply with contract requirements.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### **Summary of Conversations:**

No relevant conversations.

### **Comments**

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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 150-0042-2372, 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>	Clifford,William	QA Reviewer

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