

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-003962**Date Inspected:** 03-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 T-Rib and I-Rib connection plates and Tower Skin Plate Longitudinal Stiffener sections.

**OBG Bay 3:**

The QA Inspector randomly observed 4 ZPMC helpers utilizing angle grinders to blend the cover passes on the fillet welds attaching the 6 T-Ribs to Bottom Plate BP089-001 Weld Joint (WJ) Numbers 001 through 012.

The QA Inspector randomly observed a ZPMC torch cutting operator utilizing a track mounted torch cutting apparatus to cut T-Ribs from W18x46 ASTM A709 GR50 I-Beams. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Chen Dingding ID Number 048923 and Xiao Di ID Number 203204, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112-FCM, to tack weld T-Ribs to Side Plate SP479-001 WJ's 056 through 060. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Wu Zhibin ID Number 049804, 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 35 millimeter (mm) Insert Plate SP519-X309A to Side Plate SP519-001 at WJ 073. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 591 amps, 29.8 volts with a travel speed of 465 mm/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, Liu Zhihong ID Number 062447 and Li Shu Liang ID Number 048801, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2F (Horizontal Fillet) Position on Gantry 2 with ZPMC WPS WPS-2132-3, to weld T-Ribs to Bottom Plate BP062-001 WJ's 001/002, 005/006 and 009/010. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 295/301 amps, 30.2/30.5 volts for Mr. Sun; 303/295 amps, 30.2/30 volts for Mr. Liu and 294/291 amps, 30.6/30.1 volts for Mr. Li with a travel speed of 446 mm/minute for all 3 welders. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Li Zhanqian ID Number 048810 and Wei Da Shuai ID Number 051246, utilizing the FCAW Process in the 2F (Horizontal Fillet) Position on Gantry 1 with ZPMC WPS WPS-4132, to weld 1 each 30 mm I-Rib and 1 each 35 mm I-Rib to Deck Plate DP732/PL1569A+1568A. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 297/301 amps, 30.4/30.2 volts for Mr. Li and 306/291 amps, 30.1/30.4 volts for Mr. Wei with a travel speed of 350 mm/minute for both welders. The weld parameters appeared to comply with contract requirements.

OBG Bay 4:

The QA Inspector randomly observed ZPMC welders ID Numbers 062259, 202821 and 053605, utilizing the FCAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2132-2, to weld Tower Diaphragm Flange Plate Assembly SA221 to 15M(W) Tower Diaphragm WSD1-SA315 at WJ 16. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Yu Dong Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---



## 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.

---

**Inspected By:** Franco,Charlie

Quality Assurance Inspector

---

**Reviewed By:** Carreon,Albert

QA Reviewer