

**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-001617**Date Inspected:** 08-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**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:**

Caltrans Quality Assurance (QA) Inspector Tim McClendon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

Caltrans QA Inspector McClendon observed the Production Monitoring Test number 1 for Production Panel DP074-001 closed rib welds in Bay #1. ZPMC welding personnel performed Gantry Machine Gas Metal Arc Welding (GMAW) for the root pass using gantry machine 1. Dual process WPS-B-T-2342-U1 (U-rib)-3 was posted as the Welding procedure specification for closed rib welding. The following weld joint and welder were recorded for the PMT, weld joint (wj) # 1 Mr. Chen Jie, wj # 2 Mr. Xang Jie, wj # 3 Mr. Gao Xin Dong, wj # 4 Mr. Song Xin Shu, wj # 5 Mr. Zhang Sheo Hai and wj # 6 Mr. Xiang Huan Feng. Welding operator was Mr. Ban Xiao Hui. The following welding variables of the PMT were recorded, amperage 349 to 360 voltage 30.4 to 31.7 with a travel speed of 529 mm/min.

The ambient temperature in bay # 1 was recorded at 11 degrees Celsius with the production panel temperature recorded at 19 degrees Celsius prior to welding.

After completion of the PMT GMAW pass, ZPMC personnel performed the GMAW pass on Production Panel DP074-001. The following welders were observed welding production deck plate u-ribs welds, Mr. Chen Jie wj-1 and 3, Mr. Xang Jie wj- 2 and 4, Mr. Gao Xin Dong wj-5 and 7, Mr. Song Xin Shu wj 6 and 8, Mr. Zhang Sheo Hai wj-9 and Mr. Xiang Huan Feng wj-10. The following welding variables of production panel U-ribs was recorded, amperage 347 to 382, voltage 30.0 to 31.3 with a travel speed of 529 mm/min.

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

After completion of the GMAW pass on Production Panel DP074-001, ZPMC personnel performed the SAW pass the PMT. The following welders were observed welding production deck plate u-ribs welds, Mr. Chen Jie wj-1 and 3, Mr. Xang Jie wj- 2 and 4, Mr. Gao Xin Dong wj-5 and 7, Mr. Song Xin Shu wj 6 and 8, Mr. Zhang Sheo Hai wj-9 and Mr. Xiang Huan Feng wj-10. The following welding variables of production panel U-ribs was recorded, amperage 373 to 382, voltage 24.9 to 25.4 with a travel speed of 505 mm/min. Weld # 4 was found to be non-compliant by ZPMC personal, due to the filler/cap pass not fusing to the top edge of the PJP groove. ZMPC reported to this QA inspector there was a malfunction of the SAW wire feed which caused the weld to be non-compliant. ZPMC elected to scrap this PMT and run another PMT. This QA inspector observed the GMAW pass completed to a second set of three closed rib PMT.

Caltrans QA Inspector McClendon observed the Production Monitoring Test for Production Panel DP080-001 closed rib welds in Bay #1. ZPMC welding personnel performed Gantry Machine Gas Metal Arc Welding (GMAW) for the root pass using gantry machine 2. Dual process WPS-B-T-2342-U1 (U-rib)-3 was posted as the Welding procedure specification for closed rib welding. The following weld joint and welder were recorded for the PMT, weld joint (wj) # 1 Mr. Feng Chuan Hang, wj # 2 Mr. Jiang Ting Guango, wj # 3 Mr. Xu Guo Yin, wj # 4 Mr. Xiang Huan Feng, wj # 5 Mr. Zang Shao Hui and wj # 6 Mr. Yuan Feng Chuan Welding operator was Mr. Li Xi Dei. The following welding variables of the PMT were recorded, amperage 356 to 36077 voltage 30.2 to 30. 7 with a travel speed of 525 mm/min.

After completion of the PMT GMAW pass, ZPMC personnel performed the GMAW pass on Production Panel DP080-001. The following welders were observed welding production deck plate u-ribs welds, Mr. Feng Chuan Hang wj-1 and 3, Mr. Jiang Ting Guango wj- 2 and 4, Mr. Xu Guo Yin wj-5 and 7, Mr. Xiang Huan Feng wj 6 and 8, Mr. Zang Shao Hui wj-9 and Mr. Yuan Feng Chuan wj-10. The following welding variables of production panel U-ribs was recorded, amperage 346 to 370, voltage 29.4 to 30.8with a travel speed of 530 mm/min.

After completion of the GMAW welding on Production Panel DP080-001 the Caltrans QA Inspector McClendon observed repair in progress on the gantry machine due to a guide wheel malfunction at weld head number 1 at approximately 13:00 hours and there was no further welding performed with this gantry during this shift. The QA inspector performed random visual observations of the welds made with weld head number 1 and the welds appeared to be unaffected by the malfunction.

Caltrans representatives observed rust areas tears and fins on weld joints prior to GMAW welding. Areas were shown to ZPMC personnel prior to welding.

### **Summary of Conversations:**

No relevant conversations spoken on this date.

### **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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

---

---

# WELDING INSPECTION REPORT

*( Continued Page 3 of 3 )*

---

---

<b>Inspected By:</b>	McClendon, Timothy	Quality Assurance Inspector
----------------------	--------------------	-----------------------------

<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer
---------------------	-----------------	-------------