

**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-001547**Date Inspected:** 06-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**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:** Gu Xin Zhai**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 (PMT) for Production Panel DP041-001 and DP066-001, closed rib welds in Bay #1. ZPMC welding personnel performed Gantry Machine Gas Metal Arc Welding (GMAW) for the root pass on gantry machine number 1. Dual process WPS-B-T-2342-U1 (U-rib)-3 was posted as the Welding Procedure Specification (WPS) for closed rib welding. The following weld joint and welder were recorded for the PMT, weld joint (wj) wj # 1 Mr. Chen Jie, wj # 2 Mr. Xang Jie, wj # 3 Mr. Gao Xin Dong, wj # 4 Mr. Song Yin Shu, wj # 5 Mr. Zhang Shao Hui and wj # 6 Mr. Xiang Huan Feng. Welding operator was Mr. Li Xi De. The following welding variables of the PMT were recorded, amperage 344 to 383, voltage 30.2 to 31.1 with a travel speed of 529 mm/min. The closed ribs were welded simultaneously.

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

After completion of the PMT GMAW pass ZPMC personnel performed the GMAW pass on Production Panel DP066-001. The following welders were observed welding production deck plate u-ribs welds, wj # 1 Mr. Chen Jie, wj # 2 Mr. Xang Jie, wj # 3 Mr. Gao Xin Dong, wj # 4 Mr. Song Yin Shu, wj # 5 Mr. Zhang Shao Hui and wj # 6 Mr. Xiang Huan Feng Mr. Mr. Chen Jie wj-1 and 3, Mr. Chen Jie wj- 2 and 4, Mr. Guo Xin Dong wj-5 and 7,

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Mr. Song Yin Shu wj-6 and 8, Mr. Zhang Shao Hui wj-9 and Mr. Mr. Xiang Huan Feng wj-10. The following welding variables of production panel U-ribs was recorded, amperage 339 to 358, voltage 30.1 to 31.2 with a travel speed of 529 mm/min.

After completion of the Production Panel DP066-001 GMAW pass ZPMC personnel performed the GMAW pass on Production Panel DP041-001. The following welders were observed welding production deck plate u-ribs welds, wj # 1 Mr. Chen Jie, wj # 2 Mr. Xang Jie, wj # 3 Mr. Gao Xin Dong, wj # 4 Mr. Song Yin Shu, wj # 5 Mr. Zhang Shao Hui and wj # 6 Mr. Xiang Huan Feng The following welding variables of production panel U-ribs was recorded, amperage 348 to 371, voltage 30.9 to 31.1 with a travel speed of 529 mm/min.

Caltrans representatives observed tears and fins on weld joints prior to GMAW welding. Areas were shown to ZPMC personnel prior to welding. ZPMC performed GMAW on DP041-001 before completing SAW on the PMT. An incident will be written concerning this matter.

The QA inspector arrived at ZPMC mechanical testing lab accompanied by ABF representative Jeff Evans and ZPMC personal Miss Zhu Wei Juan to witness Charpy Vee Notch testing for material grade A709-HPS-485WT2-Z with the following heat numbers 07105099N, 07205730N, 07205634N, 07105099N which are 75mm plate. Three samples were taken from each heat number which were tested at a temperture at -31.0 degrees centregade. All samples tested past with an average of 114J, 150J, 102J, 85J respectively.

### **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.

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<b>Inspected By:</b>	McClendon,Timothy	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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