

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-001967**Date Inspected:** 16-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**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**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.

The Caltrans QA Inspector observed welding utilizing the dual process WPS-B-T-2342-U1 (U-rib)-3 welding procedure specification for closed rib welding of the Production Monitoring Test (PMT) #1 for Production Panel DP217-001 and DP461-001 on closed U-rib Partial Joint Penetration (PJP) welds in Bay #1. ZPMC welding personnel performed Gantry Machine, Gas Metal Arc Welding (GMAW) for the root pass and immediately performed Gantry Machine, Submerged Arc Welding (SAW) for the cover/final pass on PMT #1, using gantry machine #1. Upon completion of the SAW pass on U-rib PJP welds on PMT #1 Visual Testing (VT) was performed on weld #1 through #6 by ZPMC personnel and was accepted then VT was performed by the Caltrans QA and was accepted. Ultrasonic Testing (UT) was then performed by ZPMC inspector and PMT #1 was determined to be acceptable. Macro etch samples were selected by the Caltrans QA inspector on PMT #1. The following welders were observed welding the corresponding weld joints for PMT #1, weld joint (wj) #1 was welded by Mr. Xiang Huan Feng, wj #2 was welded by Mr. Song Yin Shu, wj #3 was welded by Mr. Zhang Shao Hui, wj #4 was welded Mr. Xiang Jie, wj #5 was welded by Gao Xin Dong and wj #6 was welded by Mr. Jiang Ting Guang. Welding operator was Mr. Bi Ya Hui. The welding parameters were observed and recorded for each welder and the minimum and maximum welding variables of the PMT during GMAW are listed as follows, amperage 350 to 367 voltages 29.8 to 30.5 with a travel speed of 537 mm/min. The welding parameters were observed and recorded for each welder and the minimum and maximum welding variables of the PMT during SAW are listed as follows, amperage 678 to 681 voltages 24.0 to 25.4 with a travel speed of 530 mm/min.

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

After welding was completed on PMT #1, ZPMC personnel performed welding utilizing the GMAW process on Production Panel DP217-001, on U-rib #U201 for wj #1 and wj #2, #U202 for wj #3 and wj #4, #U217 for wj #5 and wj #6, #U200 for wj #7 and wj #8 and #U214 for wj #9 and wj #10. The following welders were observed welding production deck plate on closed U-ribs PJP welds, Mr. Jiang Ting Guang welded wj #1, Mr. Gao Xin Dong welded wj #2, Mr. Xiang Jie welded wj #3 and #5, Mr. Zhang Shan Hui welded wj #4 and #6, Mr. Song Yin Shu welded wj #7 and wj #9 and Mr. Xiang Huan Feng welded Wj #8 and wj #10. The welding variables of the GMAW pass on production panel closed U-ribs PJP welds were observed and recorded for each welder. The minimum and maximum weld parameters are as follows, amperage 344 to 378, and voltage 29.4 to 30.5 with a travel speed of 530mm/min.

After completion of the GMAW welding on Production Panel DP217-001, ZPMC personnel performed welding utilizing GMAW process on DP461-001, on U-rib #U184 for wj #1 and wj #2, #U186 for wj #3, wj #4, and #U183 for wj #5 and #6, #U185 for wj #7 and #8 and #U223 for wj #9 and #10. The following welders were observed welding production deck plate on closed U-ribs PJP welds, Mr. Jiang Ting Guang welded wj #10, Mr. Gao Xin Dong welded wj #9, Mr. Xiang Jie welded wj #8 and #6, Mr. Zhang Shan Hui welded wj #7 and #6, Mr. Song Yin Shu welded wj #4 and wj #2 and Mr. Xiang Huan Feng welded Wj #3 and wj #1. The welding variables of the GMAW pass on production panel closed U-ribs PJP welds were observed and recorded for each welder. The minimum and maximum weld parameters are as follows, amperage 354 to 383, and voltage 29.9 to 30.8 with a travel speed of 530mm/min.

The ambient temperature in bay # 1 was recorded at 13 degrees Celsius with the production panel temperature recorded at 16 degrees Celsius 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 Pat Lowry, (858) 344-2712, who represents the Office of Structural Materials for your project.

Inspected By:	McClendon,Timothy	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
