

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-004225**Date Inspected:** 19-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 1:

The QA Inspector randomly observed a ZPMC machine operator utilizing a magnetic drill to place bolt holes in OBG U-Rib connection plates.

The QA Inspector randomly observed a ZPMC Non-Destructive Testing (NDT) Technician Bo Tin Rui utilizing the Magnetic Particle Testing (MT) Method to examine 100% of the GMAW 2F tack welds attaching U-Ribs to Deck Plate AW-DP545-001. The tack welds were examined while DP545-001 was in negative camber on Gantry 1 Jig. The QA Inspector observed the ZPMC NDT Technician marking the locations of 31 linear indications on the U-Ribs.

The QA Inspector randomly observed a ZPMC NDT Technician Bo Tin Rui, utilizing the MT Method to examine 100% of the GMAW 2F tack welds attaching U-Ribs to Deck Plate DP540-001. The tack welds were examined while AW-DP545-001 was in negative camber on Gantry 1 Jig. The QA Inspector observed the ZPMC NDT Technician marking the locations of 21 linear indications on the U-Ribs.

The QA Inspector randomly observed ZPMC welder Dong Yiqun 059450, utilizing the Flux Cored Arc Welding (FCAW) Process in the 3F (Vertical Fillet) Position with ZPMC WPS WPS-B-T-2133, to fit up and tack weld

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

internal diaphragms to U-Ribs for Deck Plate DP416-001 at WJ's 011 through 015. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Sun Wei, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

OBG Bay 2:

The QA Inspector randomly observed 4 ZPMC machine operators utilizing magnetic drills and templates, to place bolt holes in OBG stiffener connection plates.

OBG Bay 3:

The QA Inspector randomly observed ZPMC welder Jia Anquan 201725, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC Weld Procedure Specification (WPS) WPS-2112-FCM, to tack weld I-Ribs to Side Plate SP407-001 Weld Joint (WJ) Numbers 006/007 and 012/013. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Chen Dingding ID Number 048923, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112-FCM, to tack weld I-Ribs to Side Plate SP403-001 WJ's 005/006, 011/012 and 015/016. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

OBG Bay 4:

The QA Inspector randomly observed ZPMC welders Li Jian ID Number 067829 and Lv Peng ID Number 048617, utilizing the SMAW Process in the 4G (Overhead Groove) Position with ZPMC WPS WPS-B-T-3314 to tack weld Web Plate piece mark p545 to 23M (W) Bottom Tower Diaphragm SA238 at WJ's WSD1-SA238B/B-1/2. 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. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Gu Cai Hong ID Number 053748, utilizing the Submerged Arc Welding SAW Process in the 1G(Flat Groove) Position with ZPMC WPS WPS-B-T-2321-B-P3-S-2, to weld the butt splice between piece marks p1541 and SA419 of 71M Single Tower Diaphragm SA419 at WJ ESD1-SA419-3 and 5. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Yu Dong Ping, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 580 amps, 28.5 volts with a travel speed of 515 millimeters (mm) per minute for WJ 3 and 586 amps, 29 volts with a travel speed of 517 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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