

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-004843**Date Inspected:** 03-Dec-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:** Huang Wen Pang**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 & Tower**Summary of Items Observed:**

The Caltrans (CT) 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 Sub-Assembly Bay 1:

The QA Inspector randomly observed 2 Magnetic Drill Operators drilling bolt holes in U-Ribs U-188 and U-189 prior to forming.

The QA Inspector randomly observed ZPMC welders ID Numbers 059403/201788, utilizing the Gas Metal Arc Welding (GMAW) Process in 2G Position on Gantry 1 with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2342-U-1(U-Rib)-4, to weld the U-Ribs to Deck Plate 9BE-DP501-001 Weld Joint (WJ) Numbers 003/004. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 361/375 amps, 30.7/30.8 volts with a travel speed of 531 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 2:

The QA Inspector randomly observed

OBG Sub-Assembly Bay 3:

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The QA Inspector randomly observed ZPMC welder Wu Zhi Bin ID 049804, utilizing the SAW Process in 1G Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the cover pass in the butt splice between Deck Plate DP651-001 sections piece marks DP651A/PL1237A and DP651A/PL1238A at WJ DP651-001-038. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Wei Da Shuai ID 051246 and Li Zhao Qian ID 048810, utilizing the Flux Cored Arc Welding (FCAW) Process in 2F Position on Gantry 1 with ZPMC WPS WPS-B-T-4132, to weld the I-Ribs to Deck Plate DP652-001 at WJ's 001/002 and 005/006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 311/304 amps, 29.3/29.8 volts (001/002) and 304/308 amps, 29.3/29.1 volts with a travel speed of 350 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders ID's 048920, 201725 and 250581, utilizing the Shielded Metal Arc Welding (SMAW) Process in 2F Position with ZPMC WPS WPS-B-T-2112, to weld the T-Ribs to Deck Plate BP125-001 at WJ's BP125-001-007/008, 009/010 and 011/012. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 4:

The QA Inspector randomly observed ZPMC welders ID's 054460 and 053609, utilizing the FCAW Process in 2F Position with ZPMC WPS WPS-B-T-2132-2, to weld the fillet weld attaching the Flange Plate Assembly to 62M Single Tower Diaphragm SA360 (N) at WJ NSD1-SA360-15. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 7:

The QA Inspector randomly observed ZPMC welder Wang Chang Fa ID 058102, utilizing the FCAW Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld the fillet weld attaching the Access Way Reinforcing Ring piece mark LD26-X319M to Floor Beam Longitudinal Diaphragm LD026-001 at WJ's 013/014. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

OBG Sub-Assembly Bay 8:

The QA Inspector performed a 100% final Visual Testing (VT) on the cover pass of the welds on 47.6M Double Tower Diaphragm at WJ's WSD1-SA32B/B-1 through 16; WSD1-SA32A/B-1, 2, 10A(B); WSD1-SA226-11 through 16, 10A(B) and WSD1-SA226-1,2. There appeared to be no indications and the QA Inspector accepted all the above listed welds.

The QA Inspector performed a 100% final Visual Testing (VT) on the cover pass of the welds on 38M Double Tower Diaphragm at WJ's WSD1-SA372B/B-1,2; WSD1-SA370-1, 2 11 through 16; WSD1-SA372B/B-1 through 16. There appeared to be no indications in any of the welds; but the QA Inspector observed 3 gouges in torch cut

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areas in the base metal that exceeded contract requirements. The QA Inspector did not accept the part at this time. ZPMC marked up all 3 areas for grinding and weld repair. The attached photograph provides additional detail.



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 Joshua Ishibashi, 13764710411, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Wright,Mark	QA Reviewer
