

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-002087**Date Inspected:** 02-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**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:** OBG and Tower**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).

New Tower Shop:

The QA Inspector randomly observed ZPMC welder Chen Hongxia ID Number 040460, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-U3c-S-1, to weld the fill pass in Weld Joint (WJ) SSD1-SA15A/F-13B on Skin Plate A Sub-Assembly SA15(S). The QA Inspector randomly observed ZPMC CWI Zhu Zhonghai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 702 amps, 32.5 volts with a travel speed of 648 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Yun Chuan Jin ID Number 053060, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-U3c-S-1, to weld the fill pass in WJ SSD1-SA15A/F-26B on Skin Plate A Sub-Assembly SA15(S). The QA Inspector randomly observed ZPMC CWI Zhu Zhonghai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 650 amps, 32.8 volts with a travel speed of 647 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Xian Yong Liu ID Number 048882, utilizing the SAW

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Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-U3c-S-1, to weld the fill pass in WJ ESD1-SA107A/J-16A on Skin Plate A Sub-Assembly SA107(E). The QA Inspector randomly observed ZPMC CWI Zhu Zhonghai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 620 amps, 32.2 volts with a travel speed of 565 mm per minute. The weld parameters appeared to comply with contract requirements.

Bay 1 OBG:

The QA Inspector randomly observed ZPMC welder operators Xu Guo Yin ID Number 059443 (WJ 001), Xiang Jie ID Number 059378 (WJ 002), Gao Xin Dong ID Number 059361 (WJ 005), Jiang Ting Quang ID Number 062265 (WJ 006), Zhang Shaohui ID Number 059403 (WJ 009) and Xian Song ID Number 059416 (WJ 010) utilizing the SAW Process in the 2G/2F (Horizontal Groove/Fillet) Positions with gantry mounted welding apparatus and ZPMC Weld Procedure Specification (WPS) WPS-B-T-2342-U1(Urib)-3, on Deck Plate Sub-Assembly DP247-01 WJ Numbers 001/002, 005/006 and 009/010 respectively. The QA Inspector randomly observed ZPMC CWI Chen Xi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 683 amps, 30.1 volts (WJ 001); 680 amps, 30 volts (WJ 002); 677 amps, 30.4 volts (WJ 005); 679 amps, 30.4 volts (WJ 006); 677 amps, 30.4 volts (WJ 009) and 684 amps, 30.1 volts (WJ010). Travel speed for all welds was randomly observed at 530 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Non-Destructive Technician Zhou Dongyun, utilizing the Magnetic Particle Testing (MT) method to examine Deck Plate DP436-001 Closed Rib Diaphragm WJ 015 and DP274-001 Closed Rib Diaphragm WJ 012. There appeared to be no indications and ZPMC QC accepted the 2 WJ's. The attached photograph provides additional detail.

Bay 3 OBG:

The QA Inspector randomly observed ZPMC welder operators Li Zhaoqian ID Number 048810, Xin Meng ID Number 053742 and Sun Ti Yu ID Number 054459 utilizing the FCAW Process in the 2F (Horizontal Fillet) Position with gantry mounted welding apparatus and ZPMC WPS WPS-B-T-2132-3, to weld T-Ribs on Side Plate SP145-001 WJ Numbers 036/037, 032/033 and 028/029 respectively. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 304 amps, 30.3 volts (WJ 028), 302 amps, 30.4 volts (WJ 029); 303 amps, 29.6 volts (WJ 032); 302 amps, 30.4 volts (WJ 033); 304 amps, 30.6 volts (WJ 036) and 292 amps, 31.2 volts (WJ037). Travel speed for all welds was randomly observed at 440 mm per minute. The weld parameters appeared to comply with contract requirements.

Bay 4 Tower:

The QA Inspector randomly observed ZPMC welder Jiang Jing Teng ID Number 046830, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass in WJ ESD1-SA317-3A/L(4A) on 33M BTM Tower Diaphragm Sub-Assembly SA317(E) to p559(E). The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 620 amps, 30.1 volts with a travel speed of

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500 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welding Personnel utilizing a hand torch with a rose bud, to perform heat straightening operations on Side Plate Sub-Assembly SP521-01 in accordance with ZPMC Heat Straightening Procedure HSR1(B)-112. Heat straightening is being performed to correct welding distortion on the T-Ribs.

Bay 7 OBG:

The QA Inspector randomly observed ZPMC Welder Wang Li ID Number 044772, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-P-2221-U2, to tack weld Run On/Run Off Tabs to the Webs of various Floor Beam Diaphragm (T=30 mm to T=12 mm) Sub-Assemblies. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang, monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Chen Chuan Zong ID Number 044824, utilizing the FCAW Process in the 3F (Vertical Fillet) Position with ZPMC WPS WPS-B-T-2133, to weld cross stiffeners to Flange X6A on Floor Beam Diaphragm Sub-Assembly FB003-15. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang 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 Liu Long Xian ID Number 044785, utilizing the FCAW Process in the 3F (Vertical Fillet) Position with ZPMC WPS WPS-B-T-2133, to weld gusset stiffeners to Flange X6A on Floor Beam Diaphragm Sub-Assembly FB003-17. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang 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 Hong Yong Li ID Number 044801, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW-2G(2F)Repair-1, on a repair to WJ 025 on Floor Beam Diaphragm Sub-Assembly FB025-01, in accordance with ZPMC Critical Weld Repair (CWR) B-CWR043. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 290 amps, 29 volts with a travel speed of 510 mm per minute. The weld parameters appeared to comply with contract requirements.

Bay 8 Tower:

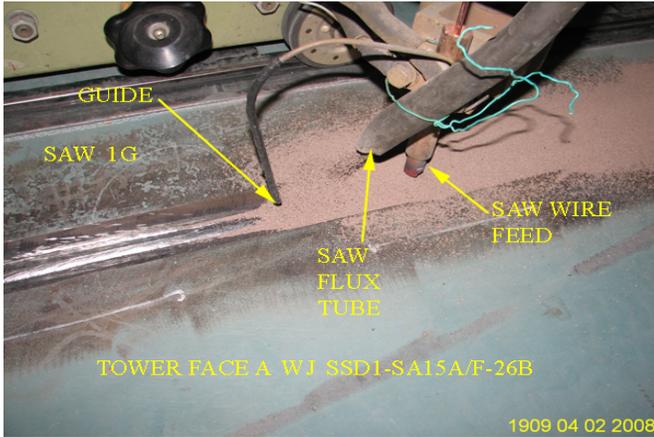
The QA Inspector randomly observed ZPMC welder Xu Pei Pei ID Number 050323, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass in WJ SSD1-SA334-A/B on Tower Diaphragm Sub-Assembly SA293(S). The QA Inspector randomly observed ZPMC CWI Ye Yongjun monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Wang Lan Ying ID Number 045265, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass in WJ

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WSD1-SA32-A/B-10A on 38M Tower Diaphragm Sub-Assembly SA32(W) to p1424(W). The QA Inspector randomly observed ZPMC CWI Ye Yongjun monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 621 amps, 30.6 volts with a travel speed of 481 mm per minute. The weld parameters appeared to comply with contract requirements.



Summary of Conversations:

There were no relevant conversations.

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.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Hager,Craig

QA Reviewer
