

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-004216**Date Inspected:** 23-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 magnetic drill operator drilling bolt holes in OBG U-Rib connection plates.

The QA Inspector randomly observed ZPMC welders Gao Xin Dong ID 059361/Jiang Ting Guang (Weld Joint (WJ) Numbers 001/002), Xu Guo Yin ID 059443/Chen Jie ID 059468 (WJ's 005/006) and Xiang Huan Feng ID 059416/Xiang Jie ID 059378 (WJ's 009/010), utilizing the Gas Metal Arc Welding (GMAW) Process in the 2G (Flat Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2342-U1(U-Rib)-4, to weld the root pass attaching U-Ribs U-116/U-11, U-114/U-28 and U-113/U-109 to Deck Plate DP200-001. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Sun Wei, monitoring weld parameters. The QA Inspector also randomly observed weld parameters and recorded them as follows: 372/373 amps, 30.5/30.4 volts for WJ's 001/002; 372/373 amps, 30.5/30.4 volts for WJ's 005/006 and 372/382 amps, 30.4/30.1 for WJ's 009/010 with a travel speed of 632 millimeters (mm) per minute for all the above listed WJ's. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

OBG Bay 2:

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The QA Inspector randomly observed 5 ZPMC magnetic drill operators drilling bolt holes in OBG and Tower connection plates.

OBG Bay 3:

The QA Inspector randomly observed ZPMC welders Sun Ti Yu ID 054459 and Liu Zhi Hong ID 062447, utilizing the Flux Cored Arc Welding (FCAW) Process on Gantry 2 in the 2F (Horizontal Fillet) Position, with ZPMC WPS WPS-B-T-2132-3, to weld stiffeners to Side Plate SP403-001-001. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly observed weld parameters and recorded them as follows: 282/320 amps, 30.8/30.4 volts for WJ's 013/014 and 295/313 amps, 31.1/30.4 volts for WJ's 007/008 with a travel speed of 480 mm per minute for all welds. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xiao Di ID 203204, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112, to tack weld T-Ribs to Side Plate SP099-001 WJ's 016/015 and 020/019. 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 Miao Yian Fei ID 066398, Yang Genchen ID 066418, Zhang Quan Fa ID 066326 and Zhu Yao ID 068250 utilizing the SMAW Process in the 3G (Vertical Groove) Position with ZPMC WPS WPS-B-T-3313-TC-P5 to tack weld 23M (W) Tower Diaphragm SA287 Web Plates at WJ's WSD1-SA287-13, 14, and 15. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Chen Chih Chian monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

OBG Bay 7:

The QA Inspector randomly observed ZPMC welder Niu Yuehai ID 066443, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112, to tack weld the bent section of Flange X6A-13 to Floor Beam Diaphragm FB003-081 at WJ 003. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Huang Wen Pang, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Hu Yacheng utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112, to weld the reinforcing fillet on Complete Joint Penetration (CJP) section of the slotted Flange X7J-5 to Floor Beam Diaphragm FB009-010 at WJ 045. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Huang Wen Pang, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

OBG Bay 8:

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The QA Inspector randomly observed ZPMC welders ID 045133 and 045246, utilizing the SMAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-3312, to weld the Web Plate p658 to 47.6 M Tower Diaphragm NSD1-SA326 at WJ's NSD1-SA169B/B-11/12. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Liu Huajie, monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

Heavy Equipment Shop Bay 1:

The QA Inspector randomly observed ZPMC welder Teng Zhicheng ID 040376, utilizing the SMAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-P-2211-B-U3b, to tack weld SSD1-SA163A/D-20A. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Li Yang, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Su Yonghui ID 053680, utilizing the SMAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-P-2211-B-U3b, to tack weld the butt splice between piece marks p67 (S) and p880 (S) at WJ SSD1-SA163A/D-23. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Li Yang, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

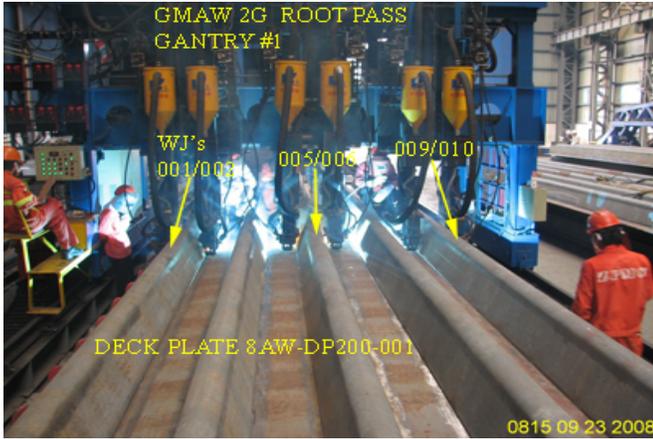
Heavy Equipment Shop Bay 2:

The QA Inspector randomly observed ZPMC welding personnel fitting up and tack welding 23M, 33M and 43M Tower Diaphragms to Skin Plate A East. The attached photograph provides additional detail.



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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:	Wright,Mark	QA Reviewer
