

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-004215**Date Inspected:** 25-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 2 ZPMC magnetic drill operators drilling bolt holes in OBG U-Ribs U-23, U-24, U-25 and U-26 prior to forming. The attached photograph provides additional detail.

The QA Inspector was requested by ZPMC to mark areas on for Radiographic Testing (RT) on Deck Plates DP590-001 Weld Joint (WJ) 300, DP560-001 WJ 300. WJ 300 on DP560-001 and DP590-001 were not ready for RT. The welds were full of residue from Ultrasonic Testing (UT) and had not been ground flush. WJ 300 on DP560-001 was only accessible from one side. ZPMC welding personnel cleaned both WJ's and ground the weld caps flush. The QA Inspector randomly marked the above listed WJ's for RT. ZPMC Representative Fu Yuhong informed the QA Inspector that Deck Plate DP560-001 would be moved after lunch to allow for WJ 300 to be accessible from both sides.

The QA Inspector randomly observed ZPMC welders Xu Guo Yin ID 059443/Chen Jie ID 059468 (Weld Joint (WJ) Numbers 001/002), Xiang Huan Feng ID 059416/Xiang Jie ID 059378 (WJ's 005/006) and Gao Xin Dong

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ID 059361/Jiang Ting Guang (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-36/U-6, U-14/U-4 and U-37/U-5 to Deck Plate DP146-001. 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: 380/376 amps, 30.7/3.1 volts for WJ's 001/002; 37/375 amps, 30.6/29.9 volts for WJ's 005/006 and 386/372 amps, 30.4/30.5 for WJ's 009/010 with a travel speed of 532 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.

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 Weld Procedure Specification (WPS) WPS-B-T-2133, to weld 8 mm internal diaphragms to U-Ribs for Deck Plate DP411-001 at WJ's 016, 034, 043, 052 and 025. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Sun Wei, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 238 amps, 27.8 volts with a travel speed of 111 mm per minute. The weld parameters appeared to comply with contract requirements.

OBG Bay 2:

The QA Inspector randomly observed 3 ZPMC magnetic drill operators drilling bolt holes in OBG stiffener connection plates.

OBG Bay 3:

The QA Inspector randomly observed ZPMC welder Xiao Lin 049485, 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 SP336-001 WJ's 018/017 and 020/019. 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.

The QA Inspector randomly observed ZPMC welder Sun Zuo Wen ID Number 048920, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112, to tack weld T-Ribs to Side Plate SP127-001 WJ's 016/015. 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.

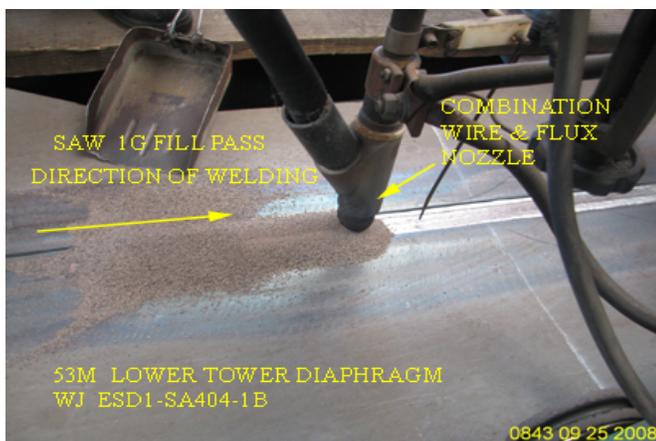
OBG Bay 4:

The QA Inspector randomly observed ZPMC welders Zhang Quan Fa ID 066326, Miao Yan Fei ID 066398 and Yan Gong Chen ID 066418, utilizing the SMAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-3312 to tack weld Web Plate piece mark p11 to 23M (W) Bottom Tower Diaphragm SA238 at WJ's WSD1-SA238B/B-5/6. 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.

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The QA Inspector randomly observed ZPMC welders Gu Cai Hong ID Number 053748, (WJ ESD1-SA404-1B) and Jiang Ting Teng ID 046830 (WJ ESD1-SA425-3A) utilizing the Submerged Arc Welding SAW Process in the 1G(Flat Groove) Position with ZPMC WPS WPS-B-T-2321-B-U3c-S-1. 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: 600 amps, 30 volts with a travel speed of 495 mm per minute for Mr. Jiang and 601 amps, 28.7 volts with a travel speed of 461 mm per minute for Ms. Gu. The weld parameters appeared to comply with contract requirements. 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 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