

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-002128**Date Inspected:** 23-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**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 Bay 1:

The QA Inspector randomly observed ZPMC welders Bai Wen Ming ID Number 062447, Xu Bo ID Number 040427 and Chang Chuansong ID Number 053870, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-345-FCAW-1G(1F)-Repair, to weld first time repairs to Weld Joint (WJ) Number SSD1-SA173A/K-15B in accordance with ZPMC Repair Procedure T-WRO25 and UT Report T787-UT-037. The QA Inspector randomly observed ZPMC CWI An Qing Xiang monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional information.

The QA Inspector randomly observed ZPMC welding personnel blending tack welds prior to Magnetic Particle Testing (MT) and welding the root pass in Partial Penetration WJ's SSD1-SA16F/G-1, SSD1-SA116F/G-3, SSD1-SA16F/G-8, SSD1-SA16F/G-110 and welding the root pass in Complete Penetration WJ's SSD1-SA16F/G-5A, SSD1-SA16F/G-7A, SSD1-SA16F/G-109A and SSD1-16F/G-112A.

The QA Inspector randomly observed ZPMC Non Destructive Technicians Zhou Dongyun and Wang Wei, utilizing the MT Method, to examine tack welds in Partial Penetration WJ's SSD1-SA16F/G-1, SSD1-SA116F/G-3, SSD1-SA16F/G-8 and SSD1-SA16F/G-110. There appeared to be no indications and all 4

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WJ's were accepted and signed off adjacent to the WJ's by ZPMC QC.

The QA Inspector randomly observed ZPMC welder Xu Yan ID Number 052917, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-P-2211-B-U3b(CJP), to weld the root pass in WJ SSD1-SA173A/K-14B on Tower Skin Plate E Sub-Assembly SA173(E). The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. Weld parameters appeared to comply with contract documents.

New Tower Shop Bay 2:

The QA Inspector randomly observed ZPMC welder Cao Xiaohua ID Number 056975, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-U3c-S, to attempt to weld the fill pass in WJ ESD1-SA227A/H-17B on Tower Skin Plate E Sub-Assembly SA227(E). The QA Inspector randomly observed that the electrode was sticking to the Run On Tab and the welding was interrupted. The welding apparatus was then removed for examination as to the cause of the malfunction and possible correction. Welding was suspended at this time.

The QA Inspector randomly observed ZPMC welder Xie Zhongcheng ID Number 041271, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B--2211-B-U3b, to tack weld during fit up of WJ ESD1-SA233A/F-20B on Tower Skin Plate E Sub-Assembly SA233(E) piece mark p1320(E) to p233(E). The QA Inspector randomly observed ZPMC CWI Zhu Zhong Hai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 210 amps with a travel speed of 109 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Cao Xiaohua ID Number 056975, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-U3c-S, to weld the fill pass in WJ ESD1-SA216B/K-7B on Tower Skin Plate E Sub-Assembly SA216(E). The QA Inspector randomly observed ZPMC CWI Zhu Zhong Hai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 650 amps, 32.3 volts with a travel speed of 618 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Shen Mei ID Number 041716, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-U3c-S, to weld the fill pass in WJ ESD1-SA227A/H-14B on Tower Skin Plate E Sub-Assembly SA227(E). The QA Inspector randomly observed ZPMC CWI Zhu Zhong Hai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 650 amps, 32.2 volts with a travel speed of 486 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

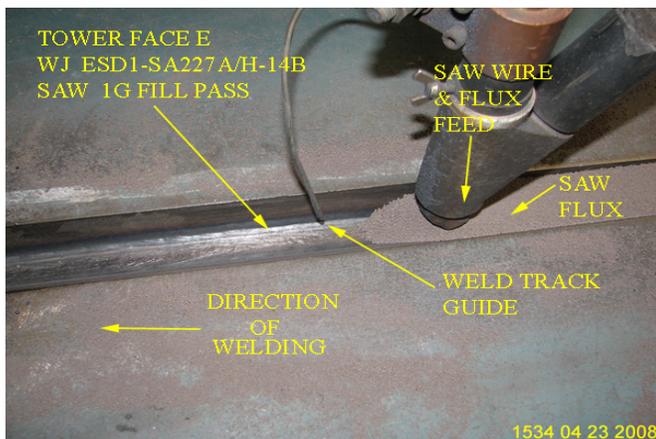
New OBG:

The QA Inspector randomly observed ZPMC welder Gao Dongliang ID Number 048714, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-223(2)1T, to weld the root pass WJ Number

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SEG-017A-002 piece marks SP011-01 + SP019-01 to SP027-01. The QA Inspector randomly observed ZPMC CWI Chen Chih-Ming monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 285 amps, 29.3 volts with a travel speed of 204 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: Carreon,Albert

QA Reviewer