

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-002091**Date Inspected:** 06-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).

Bay 3 OBG:

The QA Inspector randomly observed ZPMC welder operators Liu Zihong ID Number 062447, Xin Meng ID Number 053742 and Sun Ti Yu ID Number 054459, utilizing the Flux Cored arc Welding (FCAW) Process in the 2F (Horizontal Fillet) Position with gantry mounted welding apparatus and ZPMC Weld Procedure Specification (WPS) WPS-B-T-2132-3, to weld T-Ribs on Side Plate SP409-001 Weld Joint (WJ) Numbers 001/002, 005/006, 009/010 respectively. 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: 307 amps, 29.3 volts (WJ 001); 285 amps, 30.4 volts (WJ 002); 310 amps, 30.2 volts (WJ 005); 305 amps, 30.8 volts (WJ 006); 308 amps, 29.3 volts (WJ 009); and 315 amps, 29.9 volts (WJ010). Travel speed for all welds was randomly observed at 450 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements.

Bay 4 Tower:

The QA Inspector randomly observed a ZPMC Carbon Air Arc Operator, utilizing the Carbon Air Arc Gouging Process to back gouge WJ NSD1-SA335-1B(1A) on 43M Top Tower Diaphragm Sub-Assembly SA335(N) to p459(N).

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The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations on Tower Diaphragm Section 33M BTM SA317(W) per ZPMC Heat Straightening Request (HSR) HSR1(T)-130 to remove mill distortion.

Bay 7 OBG:

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-L3c-S-1, to weld the fill and cover pass on butt splices of various Floor Beam Diaphragm (T=30 mm to T=12 mm) Web Sub-Assemblies. The QA Inspector randomly observed ZPMC CWI Hu We Qing, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters during welding of WJ FB009-005-026 and recorded them as follows: 547 amps, 30.4 volts with a travel speed of 453 mm per minute. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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 NSD1-SA326-1A on Tower Diaphragm Sub-Assembly SA326(N) to p632(N). The QA Inspector randomly observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 602 amps, 30.8 volts with a travel speed of 470 mm per minute. The weld parameters appeared to comply with contract requirements. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Wang Lanying 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 SSD1-SA334A/B-1A on 28M Tower Diaphragm Sub-Assembly SA3342(S) to p248(S). The QA Inspector randomly observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 590 amps, 28.4 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.

The QA Inspector randomly observed ZPMC welder Han Yangjie ID Number 048686, 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-SA309-11A/12A on 47.6M Tower Diaphragm Sub-Assembly SA309(E) to p775(E). The QA Inspector randomly observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 615 amps, 30.6 volts with a travel speed of 485 mm per minute. The weld parameters appeared to comply with contract requirements.

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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