

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-003242**Date Inspected:** 17-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**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:	Zhao Chen Sun and Huang Wen Peng			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 SAS Tower Fabrication		

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 4: Tower Diaphragm

This QA observed ZPMC/QC perform 100% MT on fillet weld connection between tower diaphragm plate to diaphragm flange SSD1-SA27 A/B-8. While ZPMC was doing the MT, one of the ABF/QA found a slag on the surface of the fillet weld, which ZPMC tried to remove by grinding. The ground area of the fillet became deep and the required size was already inadequate. Per ZPMC, they will fix this by welding then do the MT again after repair. See photo below.

This QA Inspector randomly observed two ZPMC welders Li Xue Hua ID #058174, and welder 066751 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill passes on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly SSD1-SA333 weld joint 6A and ESD1-SA268 weld joint 7A respectively. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring preheat and weld parameters.

This QA observed two ZPMC welder Li Shi Qiang welder 053609 and Shi Yan Hao ID #053605 FCAW(2F) fillet

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welding root and fill pass on tower diaphragm plate to diaphragm flange ESD1-SA317-1 utilizing the FCAW Process in the 2F (Horizontal) Position with a 1.4mm diameter electrode, filler metal brand K-71TSR, semi automatic with ZPMC WPS WPS-B-T-4132. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring weld parameters.

Minor fillet weld repair was observed on 7-open rib stiffener to side panel SP385-001-001~014 by ZPMC welder Zhang Peng ID #049769 using TL-508 electrode. ZPMC CWI Wu Ming Cai noted monitoring said repair. This QA also observed bending of heavy plate marked P668(W)-1 4/22(B) intended for tower diaphragm flange. Oxy-acetylene gas was used with thermal heat input of less than 650 degree C and with the aid of 50-Ton hydraulic Ram following procedure HSR1(T)-2043.

Bay 7: OBG - Floor Beam Sub Assembly

The QA Inspector randomly observed ZPMC welder Zhang Qing Quan ID Number 044774, utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 3G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2233-Tc-U4-F, to weld fill pass on skewed connection plate (of 300mm x 300mm diagonal brace) to floor beam bottom flange Sub-Assembly SSD18B-PP040-006/007. The QA Inspector randomly observed ZPMC QC Yang Ding monitoring weld parameters with the supervision of ZPMC CWI Hu Wei Qing.

QA Inspector J. Lizardo randomly observed ZPMC qualified welder Chen Chuan Zong ID #044824 groove welding fill pass on stiffener end(200mm)to web plate of floor beam FB020-001-071. Mr. Chen was observed welding in the 2G (horizontal) position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA inspector Lizardo observed the ZPMC QC CWI Inspector Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS).

SMAW(2F/3F) fillet welding on 8.0mm thick plate end cap to 300mm x 300mm hollow steel diagonal brace for various floor beams sub-assembly FB006-053-002/004, FB006-054-002/004, and FB006-052-002/004. This QA observed ZPMC welders Yang Gencheng ID #066418, Bian Henggui and Hu Yacheng ID #049339 doing the task using TL-508 electrode.

FCAW fillet welding (2F) was observed on flange to web plate of longitudinal shear plate LD004-020-011. ZPMC welder working on this was identified as Meny Tao ID# 068918. ZPMC CWI Hu Wei Qing was noted monitoring the parameters. Tack welding/fit-up of flange to web plate of longitudinal shear plate using TL-508 by ZPMC welder Li Wen Guo ID #066261 this QA also observed. On one tack welded flange to web plate fillet weld connection of floor beam FB028-002-092, one tack weld was noted by ABF/QA Inspector to have cracked. ZPMC/CWI Huang Wen Pang called this QA to confirm the existence of cracked tack weld. Though no MT was done prior to see the tack weld, it was obvious from visual itself. Per ZPMC, they intend to remove this tack by grinding then MT its removal. See photo below.

Bay 8: Tower Diaphragm

This QA Inspector randomly observed three ZPMC welder Jiang Yong Sheng ID number 045240, Chen Chao Nian ID #048688 and ID # 066164 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS

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WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly WSD1-SA370-9A, WSD1-SA32 A/B-3B and ESD1-SA316 A/B-11A respectively. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Tack welding/fit-up of plate splice butt joint for floor beam FB090-002-015 and FB088-002-015 using TL-508 and tack welding of run off tab on tower diaphragm flange pre-assembly NSD1-SA265 using FCAW this QA observed.

This QA also observed bending of heavy plate marked P654(N)-7/10(C) intended for tower diaphragm flange. Oxy-acetylene gas was used with thermal heat input of less than 650 degree C and with the aid of 50-Ton hydraulic Ram following procedure HSR1(T)-2676.



Summary of Conversations:

No significant conversation occurred today.

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 Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer