

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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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-003310**Date Inspected:** 18-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:	Huang Wen Pang and Lvliqing	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 Inspector randomly observed three ZPMC welders Li Xue Hua ID #058174, ID #066751, and welder ID #053605 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 root and fill passes on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly SSD1-SA333 A/B weld joint 5A, ESD1-SA268 weld joint 3A and NSD1-SA261 weld joint 8B respectively. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring preheat and weld parameters.

Heat straightening was also observed on 7-open rib stiffener to side panel SP388(A)-001 weld joints 001~014 and SP392(A)-001 weld joints 001~012 due to welding distortion. Natural gas was used with thermal heat input of less than 650 degree C following procedure HSR1(B)-1514 and HSR1(B)-1515 respectively. Bending of heavy plate marked P665(S)-1 4/22(A) intended for tower diaphragm flange was also noted. 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)-2044.

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Bay 7: OBG - Floor Beam Sub Assembly

QA Inspector J. Lizardo randomly observed ZPMC qualified welder ID #066673 groove welding fill pass on stiffener end(200mm)to web plate of floor beam FB020-001-065. This welder 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 Huang Wen Pang verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS).

The QA Inspector randomly observed ZPMC welder ID Number 068918, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U2-F, to weld the fill pass on PJP corner joint between flange and web plate on longitudinal shear plate LD001-008-012. The QA Inspector randomly observed ZPMC CWI Hu We Qing, monitoring weld parameters. FCAW fillet welding (2F) was observed on flange to web plate of longitudinal shear plate LD004-019-011. ZPMC welder working on this was identified as Meny Tao ID# 068918. Another fillet welding(2F) was noted on flange to web plate and stiffener to web plate on floor beams FB009-009-009 and FB023-001-054/055 respectively. ZPMC CWI Hu Wei Qing was noted monitoring the parameters. Tack welding/fit-up of flange to web plate of longitudinal shear plate LD001-012-011 using TL-508 by ZPMC welder Li Wen Guo ID #066261 and multiple stiffeners to web plate of floor beam FB020-001-065 using THJ506Fe-1 electrode this QA also observed.

Bay 8: Tower Diaphragm

This QA Inspector randomly observed three ZPMC welder Jiang Yong Sheng ID number 045240, Chen Chao Nian ID #048688 and Yuan Wei 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 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 ESD1-SA371 A/B-11B, WSD1-SA32 A/B-3A and ESD1-SA32 A/B-5B respectively. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters. Tack welding/fit-up of fillet weld connection between tower diaphragm plate to diaphragm flange NSD1-SA270-8 was also noted. Gap between the connection was initially measured at 6.5mm wide and preheated to >160 degree C prior to tack with THJ506Fe-1 electrode.

The QA Inspector randomly observed ZPMC welder Xie Lian Fang ID Number 045247, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the fill pass on plate splice butt joint of floor beam FB005-016-002. The QA Inspector randomly observed ZPMC CWI Lvliqing, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 557 amps, 30.2 volts with travel speed of 508mm/minute. Weld parameters appeared to comply with contract requirements. Tack welding/fit-up of same joint just mentioned at FB082-001-015 using TL-508 by ZPMC welder Chen Jinnian ID # 045148 this QA observed.

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

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for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer