

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-003473**Date Inspected:** 06-Aug-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:	Lvliqing and Hu Wei Qing	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 MT personnel perform 10% Magnetic Particle Testing on fillet weld between rib stiffener and bottom panel BP300A and BP198. It was noted that rust and scale have been removed by ZPMC workers on weld areas prior MT testing. Electromagnetic Yoke was used with alternating current (AC) as power source. The detection media used was dry red ferromagnetic particles and applied with powder blower while the magnetizing force is on and in addition, magnetizing force is applied in perpendicular direction (180 degree apart). This QA also perform 10% MT on weld joints of bottom panels mentioned above.

This QA observed ZPMC welder ID #066416 and 053753 SMAW(2G) PJP welding fill pass on 60mm stiffener plate to tower double diaphragm(bottom) ESD1-SA234 B/B weld joints 13 and 16 and welder ID #066674 and 066398 SMAW(3G) PJP welding fill pass on 60mm stiffener to 40mm web plate ESD1-SA234 B/B weld tee joints 12 and 14. All welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring weld parameters.

This QA Inspector randomly observed ZPMC welder Han Hong Wen ID#200149 and Huang Hong Pei ID

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

#037705 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-SA276-11A and WSD1-SA234 A/B-7B respectively. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring preheat and weld parameters.

Bay 7: OBG - Floor Beam Sub Assembly

FCAW(2F) fillet welding on stiffener to web plate of longitudinal shear plate LD001-012-004 and LD001-012-004 using 1.4mm diameter, filler metal brand E71T-1, class Supercored 71H by ZPMC welder Zhang Mingye and Wang Qian Lin this QA observed.

The QA Inspector randomly observed ZPMC welder Wang Hong Lei ID Number 066687, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-T-U2-F, to weld CJP fill pass on flange to web plate corner joint floor beam Diaphragm Sub-Assembly FB091-001-127. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

FCAW(3G) CJP welding repair on CJP of continuity plate to floor beam bottom flange FB003-044-046 and FB003-055-010 due to UT reject per welding repair report B-WR709 and B-WR710 and following procedure WPS-345-FCAW-3G(3F)-REPAIR. ZPMC welder Chen Chuanzong ID #044824 was seen performing the repair.

Bay 8: Tower Diaphragm

This QA Inspector randomly observed ZPMC welder Jiang Yong Sheng ID number 045240, ID #068917 and ID #067876 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 NSD1-SA248-5B, WSD1-SA301-6B and SSD1-SA270-7A respectively. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Tack weld/fit-up and pre-assembly of 40mm tower double diaphragm web plate to 60mm thick stiffener plate tee joint at ESD1-SA316B/B using Excalibur E9018M H4R, 4.8mm diameter noted. Preheating to >180 degree C using ceramic thermal blanket 40mm web plate to tower double diaphragm plate ESD1-SA32 B/B was also observed.

Heat straightening was observed on tower diaphragm flange ESD1-SA348 weld joints 1, 2, 4A/B, 5A/B, 10A/B, and SSD1-SA169 A/B weld joints 10A/B, 11A/B, 3A/B, 5A/B, 6A/B due to welding distortion. Natural gas was used with thermal heat input of less than 650 degree C and with the aid of 8.0Ton counter weight and 50-Ton hydraulic Ram following procedure HSR1(T)-3023 and 3035 respectively.

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

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer