

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-003953**Date Inspected:** 25-Sep-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

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|------------------------------------|--------------------------------|-----------|------------|----------------------------------|-------------------------------|-----------|------------|
| CWI Name: | Liu Hua Jie and Huang Wen Pang | | | 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 7: OBG - Floor Beam Sub Assembly

This QA randomly observed ZPMC welder Chen ChuanZong ID #044824 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U2-F to weld CJP fill pass on flange splice butt joint on FB004-017-144. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring preheat and weld parameters.

The QA Inspector randomly observed ZPMC welder Duan Xin Zhi ID Number 050502 and Huang Xin Lan ID #044780 utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the cover pass on plate splice butt joint of floor beam sub-assembly FB010-019-062. QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring weld parameters.

This QA Inspector randomly observed ZPMC welder Hong Shuili ID #044815 utilizing the FCAW Process in the 2G (Hor. Groove) Position with WPS-B-T-2232-Tc-U4b-F and a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic to weld fill pass on web plate to flange tee joint on floor beam FB015-018-045. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring preheat and

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weld parameters.

FCAW(2F/3F) fillet welding on stiffener, flange to web plate and stiffener to web plate/flange on various floor beams FB009-078-011-013/014, FB003-074-004 and FB003-075-070 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H. Tack/fit-up of various stiffeners to web plate on floor beam FB009-010, FB009-015, flange to web plate of FB003-104 and various stiffener plates to flange/web plate of FB003-072 using TL-508 electrode was also observed.

Bay 8: Tower Diaphragm

This QA Inspector randomly observed ZPMC welder Gao Zhang Liang ID number 048714 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-345-FCAW-3G(3-F)-REPAIR to weld fill pass repair on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly WSD1-SA301 A/B weld joint 7A(7B) due to UT reject and per repair request T-WR283. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

The QA Inspector randomly observed ZPMC Welders ID #037997 and ID #068924 utilizing the Shielded Metal Arc Welding (SMAW) Process in the 3G (Vertical Groove) Position with Excalibur E9018M H4R, 4.8mm diameter electrode following ZPMC WPS WPS-B-T-3313-Tc-P5 to weld tower double diaphragm PJP fill pass on 40mm thick web plate to 60mm thick stiffener plate tee joint WSD1-SA370 weld joints 11 and 12. The QA Inspector randomly observed ZPMC CWI Liu Hua Jie monitoring weld parameters.

Tack/fit-up of 60mm stiffener plate to (top) tower double diaphragm NSD1-SA169B/B-2 and 40mm web plate to (bottom) tower double diaphragm WSD1-SA32B/B weld joints 1 and 2 using Excalibur E9018M H4R, 4.8mm diameter electrode was also observed.

Bending of 60mm heavy steel plate marked P1246(S)-9/16(S) and P1047(E)-9/16(L) for tower diaphragm flange using natural gas with thermal heat input of <650 degree C with the aid of hydraulic ram following procedure HSR1(T)-4010 and HSR1(T)-4009 respectively this QA observed.

Summary of 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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

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| Inspected By: | Lizardo, Joselito | Quality Assurance Inspector |
| Reviewed By: | Cuellar, Robert | QA Reviewer |
