

**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-004568**Date Inspected:** 05-Nov-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:** Hu Wei Qing 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 7: OBG - Floor Beam Sub Assembly**

This QA Inspector randomly observed ZPMC welder ID #044774 and ID #044830 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 cover and root passes on web plate to flange tee joint on floor beam FB009-017-045 and FB019-002-146 respectively. FCAW(2G) CJP welding fill pass on 200mm stiffener end to web plate of FB019-002-112 also on going. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring preheat and weld parameters.

FCAW(2F) fillet welding on stiffener and flange to web plate FB010-020 weld joints 013/014 and FB019-002-115/116 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H following WPS-B-T-2132-3 this QA observed. ZPMC welder ID #037944 was seen performing the task. Tack/fit-up of various stiffeners to web plate on floor beam FB009-012-022/023 and FB009-020 using TL-508 electrode and implementing WPS-B-P-2112 also continues.

**Bay 8: Tower Diaphragm**

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## WELDING INSPECTION REPORT

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This QA Inspector randomly observed ZPMC welder ID number 202654 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 cover pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly NSD1-SA325 weld joints 2B and 9A. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters. FCAW tack/fit-up of tower diaphragm flange bent plate of Tower Diaphragm flange NSD1-SA363 also in progress.

The QA Inspector randomly observed ZPMC Welders ID #0452618, ID #051324, ID #067993 and ID #051324 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 75mm thick web plate to 60mm thick stiffener plate tee joint SSD1-SA244A/B weld joints 14, 15, 16, and 17. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Heat straightening was also observed on tower diaphragm plate WSD1-SA415A/B weld joints 8A/B, 7A/B, 6A/B, 5A/B, 3A/B, 2A/B, 9A/B and 4A/B due to welding distortion. Natural gas was used with heating temperature of less than 650 degree C with the aid of 50Ton hydraulic jack and following procedure HSR1(T)-5355.

This QA observed ZPMC weld, ID #048433, ID #068445, ID #048433 and ID #068445 utilizing the FCAW Process in the 2F (Horizontal) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H semi automatic with ZPMC WPS WPS-B-T-2132 to weld fillet cover pass on fillet weld connection between tower diaphragm plate to diaphragm flange ESD1-SA421-2 and ESD1-SA422-2. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

### 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.

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<b>Inspected By:</b>	Lizardo,Josecito	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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