

**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-000970**Date Inspected:** 04-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**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**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 3 OBG:

The QA Inspector randomly observed ZPMC welder He Yu Mei ID Number 048625, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-T-2132-1 in the 2F position to tack weld T-Ribs to Bottom Plate PL34C. The QA Inspector observed ZPMC CWI Li Chan Woo monitoring weld parameters. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Li Zihong ID Number 062447, utilizing the FCAW Process with approved ZPMC WPS WPS-B-T-2132-1 in the 2F position to tack weld T-Ribs to Bottom Plate PL36A. The QA Inspector observed ZPMC CWI Li Chan Woo monitoring weld parameters. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Sun Tiyu ID Number 054459, utilizing the FCAW Process with approved ZPMC WPS WPS-B-T-2132-1 in the 2F position to tack weld T-Ribs to Bottom Plate PL37A. The QA Inspector observed ZPMC CWI Li Chan Woo monitoring weld parameters. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed several areas in the welds attaching the T-Ribs to Side Plate PL18A, that

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had been marked up by ZPMC Quality Control (QC) Personnel for rework. The QA Inspector randomly observed that several of the areas that had been marked up by ZPMC QC Personnel, had been marked up due to a lack of fusion the the webs on T-Ribs. The T-Ribs had been welded with the FCAW process with the gantry mounted FCAW apparatus in the 2F position. The attached photograph provides additional detail.

Bay 7 OBG:

The QA Inspector randomly observed a ZPMC helper utilizing a grinder to clean Floor Beam Section WJFB026-01-080 after back gouging with the carbon air arc gouging process.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the Submerged Arc Welding (SAW) Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the IG position to weld the fill and cover passes on Weld Joint (WJ) FB013-04-002 joining SPMC Floor Beam Diaphragm Sections X95-X95B T=30mm A709M-345F2) to X96-X96B-2 (T=12mm A709M-345T2). The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 545 amps, welding voltage 32 volts with a travel speed of 440 millimeters (mm) per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

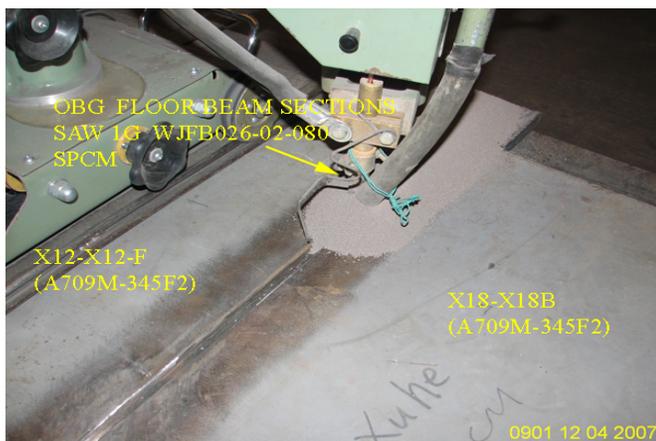
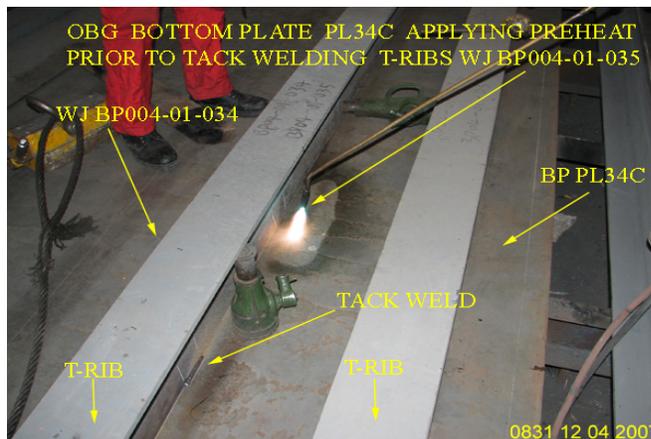
The QA Inspector randomly observed ZPMC welder Liu Kaige ID Number 044830, utilizing the FCAW Process with approved ZPMC WPS WPS-B-T-2231-B-U2-F-1 in the 1G position to weld the root pass in SPCM Floor Beam Section X18-X18B (A709M-345F2) to Floor Beam Section X12-X12F (A709M-345F2) at WJ FB026-01-080. The QA Inspector observed ZPMC CWI Cai Yiru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 280 amps, welding voltage 29.2 volts with a travel speed of 501 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the IG position to weld the fill and cover passes on WJ FB008-02-023. The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 523 amps, welding voltage 31.1 volts with a travel speed of 405mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the IG position to weld the fill and cover passes on WJ FB026-01-080 joining SPMC Floor Beam Sections X95-X95B T=30mm A709M-345F2) to X96-X96B-2 (T=12mm A709M-345T2). The QA Inspector observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 530 amps, welding voltage 30 volts with a travel speed of 420 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.

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## Summary of Conversations:

There were no relevant 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Franco,Charlie	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cochran,Jim	QA Reviewer
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