

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-001064**Date Inspected:** 12-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 was informed by ZPMC Quality Representative Shen Xue Jun, that there had been 2 cracked tack welds discovered by ZPMC Quality Control (QC) Personnel in WJ SP047-01-015 on Side Plate PL39A. Mr. Jun further informed the QA Inspector that the cracked tack welds had been ground, but that one of the cracks propagated into the base metal. The QA Inspector observed the crack in the base metal where the weld metal had been removed. Mr. Jun also informed the QA Inspector that ZPMC would generate a Critical Weld Repair Request to repair the base metal.

Bay 7 OBG:

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 1G position to weld the fill and cover passes on Floor Beam Sections at Weld Joint (WJ) FB008-04-023. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 506 amps, welding voltage 31.4 volts with a travel speed of 446 millimeters (mm) per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.

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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 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB001-04-021. 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 504 amps, welding voltage 31.2 volts with a travel speed of 412 mm 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 Wang Min ID Number 048296, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the fill and cover passes on Floor Beam Sections at Weld Joint (WJ) FB008-05-023. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 525 amps, welding voltage 30.8 volts with a travel speed of 406mm 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 1G position to weld the fill and cover passes on Floor Beam Sections at WJ FB007-06-021. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: 520 amps, 31.3 volts with a travel speed of 422mm per minute. The QA Inspector randomly observed that the run on tab fell off right at the start of the welding. The run on tab was re-attached and welding resumed. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional information.

The QA Inspector observed ZPMC welder Hu Yacheng ID Number 049339, utilizing the Shielded Metal Arc welding (SMAW) Process, to attach lifting lugs to various Floor Beam Sub-Assemblies. The attached photograph provides additional detail.

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 1G position to weld the fill passes on Floor Beam Sections at Weld Joint (WJ) FB007-05-021. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 525 amps, welding voltage 30.8 volts with a travel speed of 450mm per minute. The QA Inspector randomly observed the SAW apparatus blow through the tip of the run off tab at the completion of one of the fill passes. Welding was discontinued to allow for the removal and replacement of the run off tab. ZPMC Quality Representative Lay Tao informed the QA Inspector that a new run off tab would be attached after lunch and welding would be resumed. Weld parameters appeared to comply with the above approved ZPMC WPS.

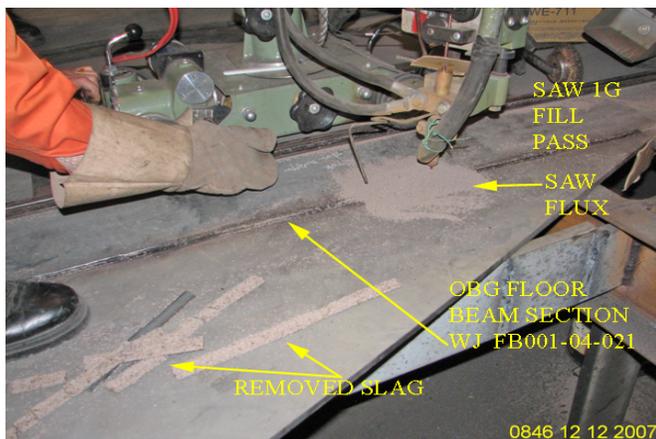
The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process with approved ZPMC WPS WPS-B-P-2221-B-L2c-S-1 in the 1G position to weld the cover pass on Floor Beam Sections at Weld Joint (WJ) FB007-05-021. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented

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them as follows: 524 amps, 30.8 volts with a travel speed of 411mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed a ZPMC fitter, center punching the trim lines on Floor Beam Sections. The attached photograph provides additional detail.



Summary of Conversations:

As noted in the above body of this report.

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.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer