

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-001096**Date Inspected:** 26-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 930**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**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 7 OBG:

The QA Inspector randomly observed ZPMC welder Ren Jinzhu ID Number 044837, utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC approved Weld Procedure Specification (WPS) WPS-B-P-2112 in the 2F position to tack weld Flange Plate X7K to Floor Beam Web FB007-04 at Weld Joint (WJ) Number FB007-04-009 on Plates X46A + X46C + X14A. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru, monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Wang Changfa ID Number 058102, utilizing the SMAW Process with ZPMC approved WPS WPS-B-P-2112 in the 2F position to tack weld Stiffener X2K to Floor Beam Web FB007-06 at WJ's FB007-06-023, 024. The QA Inspector randomly observed ZPMC CWI Li Zhijiang, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Yuan Wensong ID Number 055491, utilizing the Flux Cored Arc Welding (FCAW) Process with ZPMC approved WPS WPS-B-T-2132-2 in the 2F position utilizing Hitronic HIT-18-1D Automatic Welding Carriages, to weld Stiffener X2G to Floor Beam Web FB008-02 at WJ FB008-02-015. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The

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QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 290 amps, welding voltage 29.2 volts with a travel speed of 543 millimeters mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Liu Longxian ID Number 044786, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2132-2 in the 2F position utilizing Hitronic HIT-18-1D Automatic Welding Carriages, to weld Stiffener X2G to Floor Beam Web FB008-02 at WJ FB008-02-016. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 294 amps, welding voltage 29.5 volts with a travel speed of 543 millimeters mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Liu Longxian ID Number 044786 and Yuan Wensong ID Number 055491, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2132-2 in the 2F position utilizing Hitronic HIT-18-1D Automatic Welding Carriages, to weld Stiffener X2E to Floor Beam Web FB008-02 at WJ's FB008-02-017, 018. The QA Inspector randomly observed ZPMC CWI Li Zhijiang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 299 amps, welding voltage 29.2 volts with a travel speed of 545 mm per minute for Mr. Yuan and 293 amps, 29.4 volts with a travel speed of 545 mm per minute for Mr. Liu detail. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Chen Chuanzong ID Number 044824, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2231-B-U2-F-1 in the 1G position to weld the root pass in the splice between Floor Beam FB005-01 Diaphragm sections X50A (T=30mm F2 SPCM) to X5A (T=12mm F2 SPCM) at WJ FB005-01-002. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 280 amps, welding voltage 30 volts with a travel speed of 515 millimeters mm per minute. The weld parameters appeared to comply with contract requirements. The QA Inspector also randomly observed an area of porosity at the start of the root pass with the tie in to one of the blended tack welds. The QA Inspector informed ZPMC CWI Cui Yi Ru of the indication and showed Mr. Cui the location. The QA Inspector randomly observed the removal of the porosity. The attached photographs provide additional detail of the porosity indication and subsequent removal of same.

The QA Inspector randomly observed ZPMC welder Chen Chuanzong ID Number 044824, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2231-B-U2-F-1 in the 1G position to weld the root pass in the splice between Floor Beam FB005-02 Diaphragm sections X50A (T=30mm F2 SPCM) to X5A (T=12mm F2 SPCM) at WJ FB005-02-002. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 285 amps, welding voltage 29.9 volts with a travel speed of 517 millimeters mm per minute. The weld parameters appeared to comply with contract requirements.

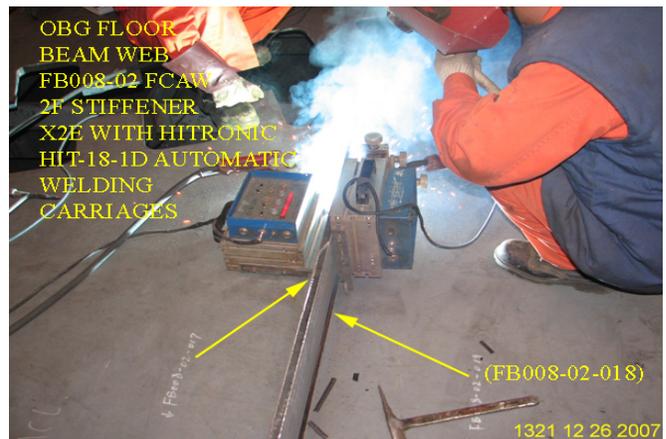
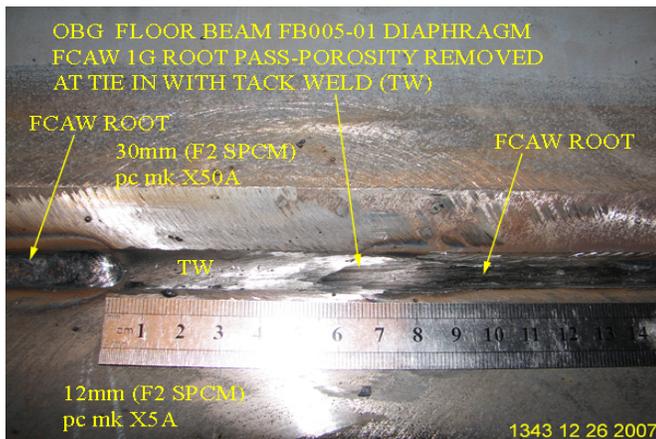
The QA Inspector randomly observed ZPMC welder Chen Chuanzong ID Number 044824, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2231-B-U2-F-1 in the 1G position to weld the root pass in the splice between Floor Beam FB005-02 Diaphragm sections X50C (T=30mm F2 SPCM) to X5C (T=12mm F2

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SPCM) at WJ FB005-02-020. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 286 amps, welding voltage 30 volts with a travel speed of 517 millimeters mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Chen Chuanzong ID Number 044824, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2231-B-U2-F-1 in the 1G position to weld the root pass in the splice between Floor Beam FB005-03 Diaphragm sections X50C (T=30mm F2 SPCM) to X5A (T=12mm F2 SPCM) at WJ FB005-03-020. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 285 amps, welding voltage 29.9 volts with a travel speed of 516 millimeters mm per minute. The weld parameters appeared to comply with contract requirements.



Summary of Conversations:

There were no relevant conversations.

Comments

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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
