

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-000972**Date Inspected:** 07-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 7 OBG:

The QA Inspector randomly observed ZPMC welder Jin Cheng ID Number 058551, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-P-2211-3-U2 to attach run on/run off tabs to Floor Beam Web sections at Weld Joint (WJ) Numbers FB025-02-108, FB025-01-108, FB021-01-108, FB022-02-108, FB026-01-108, FB026-02-108, FB018-01-108, FB018-02-108, FB017-01-108 and FB017-02-108. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector randomly observed that the above Floor Beam Webs were covered in dirt and that the cleaning of the Floor Beam Webs prior to welding was minimal. The QA Inspector also observed that the preheat applied to the Floor Beam Webs prior to attaching the run on/run off tabs, produced a very defined mud line as a result of the condensing of moisture released during the preheating of the weld area. The QA Inspector picked up a nearby broom and swept the dirt off the Floor Beam Web at WJ FB022-01-108 to illustrate to ZPMC welding personnel that the weld area needed to be cleaned properly prior to welding. The ZPMC welding personnel cleaned off the dirt from the rest of the Floor Beam Webs prior to performing any welding. Weld parameters appeared to comply with the above approved ZPMC WPS. The attached photograph provides additional detail.

The QA Inspector randomly observed a ZPMC torch cutter utilizing a track mounted torch beveling apparatus, to cut the bevels on Floor Beam sections X46-X46D/X46-X46A (T=30mm/T=12mm) to X46-X46A (T=12mm).

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

The attached photograph provides additional detail.

The QA Inspector randomly observed a ZPMC utilizing a grinder to clean the bevel edges after torch cutting on Floor Beam Web sections at WJ's FB018-01-108, FB018-02-108 and FB026-01-108. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Jin Cheng ID Number 058551, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-T-2231-B-U2-F-1 to weld the root pass in Floor Beam Web sections at WJ FB022-01-108. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also randomly verified weld parameters and documented them as follows: 274 amps, 28.6 volts with a travel speed of 527 millimeters (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 a ZPMC helper utilizing a grinder to blend the root pass of Floor Beam Web at WJ FB022-01-108. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Jin Cheng ID Number 058551, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-T-2231-B-U2-F-1 to weld the root pass in Floor Beam Web sections at WJ's FB017-02-108. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also randomly verified weld parameters and documented them as follows: 271 amps, 28.8 volts with a travel speed of 510mm per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

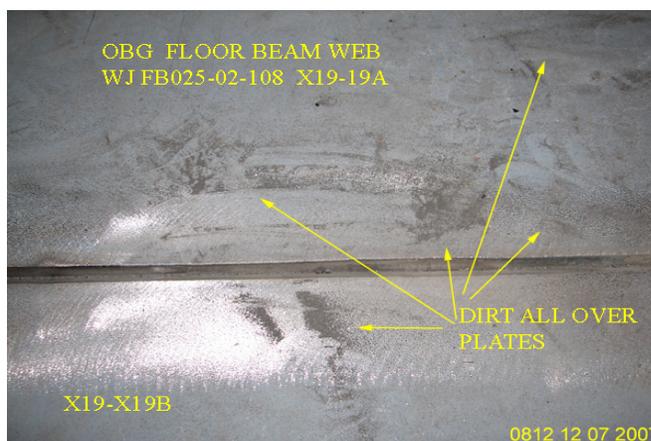
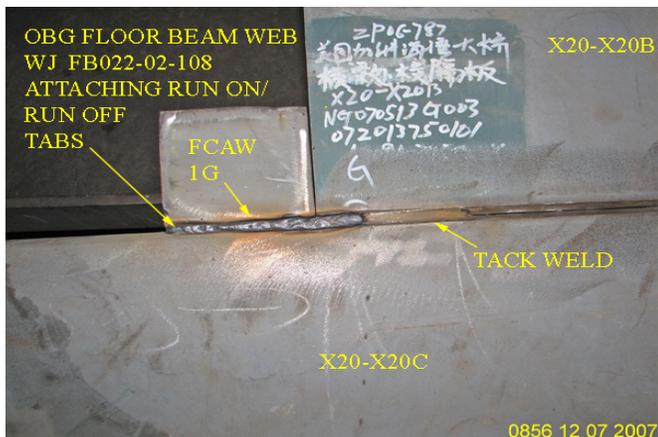
The QA Inspector randomly observed ZPMC welder Jin Cheng ID Number 058551, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-T-2231-B-U2-F-1 to weld the root pass in Floor Beam Web sections at WJ FB017-01-108. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also randomly verified weld parameters and documented them as follows: 266 amps, 28.9 volts with a travel speed of 515 millimeters (mm) per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Jin Cheng ID Number 058551, utilizing the Flux Cored Arc Welding (FCAW) Process with approved ZPMC Weld Procedure Specification (WPS) WPS-B-T-2231-B-U2-F-1 to weld the root pass in Floor Beam Web sections at WJ FB018-01-108. The QA Inspector observed ZPMC CWI Zhang Zhong monitoring weld parameters. The QA Inspector also randomly verified weld parameters and documented them as follows: 268 amps, 28.6 volts with a travel speed of 504 millimeters (mm) per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC Non Destructive Technician Li Li Ming utilizing the Ultrasonic Testing Method to perform a lamellar scan of SPMC WJ's FB008-05-026, FB008-06-026, FB016-04-026, FB001-04-026, FB007-05-026, FB002-04-026, FB008-04-026 and FB007-06-026. Each WJ was a splice between T=30mm A709-345F2 material to A709-345T2 material. The attached photograph provides additional detail.

WELDING INSPECTION REPORT

(Continued Page 3 of 4)



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.

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer