

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-001416**Date Inspected:** 25-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**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:** Tower and OBG Fabrication**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Mock Up:

CWI Inspectors: Wu Ming Kai, Huang Wei

Bay 7

The QA Inspector observed ZPMC welder Mr. Hong Yong Li stencil 44801 is utilizing welding procedure specification WPS-B-T-2132-3 using the flux cored welding process for fillet welds on OBG floor beam weld FB003-01-001. The QA Inspector observed a welding current of approximately 305 amps 29.2 volts and the base material had been preheated to a minimum of 60°C. Items observed by the QA Inspector appear to comply with project specifications. See the photograph below that shows QC measuring the base material preheat prior to Mr. Hong Yong Li commencement of the welding.

Bay 3

QA Inspector observed ZPMC welder Ms. He Yu Mei stencil 48625 is using welding procedure specification

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WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL49A base plate BP020 stiffener plate welds BP020-01-013 and SP020-01-014. The QA Inspector observed a welding current of approximately 280 amps, 28.5 volts and the base material has a minimum preheat temperature of 100° C. Ms. Mei was also using a second flux cored welding machine to complete fillet tack welds on stiffener plate BP020-01-021 and BP020-01-022. The QA Inspector observed a welding current of approximately 265 amps, 27.6 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed three ZPMC welders using welding procedure specification WPS-B-T-2132-3 using the flux cored welding process for PL49A fillet welds on six OBG side plate SP038 stiffener welds at the same time. ZPMC has multiple flux cored welding process manipulators attached to a movable gantry that runs on a track along the length of the stiffener plates. The QA Inspector observed a welding travel speed of approximately 430 mm per hour. As the welding commences, each of the welders is responsible for two of the flux cored welding heads. All welders are using 1.4 mm diameter E71T-1 rolls of electrodes that have been marked as being installed earlier today. The QA Inspector observed all six welding machines have a shielding gas flow between 18 and 21 liters per hour as required by the WPS. Welder Mr. Dong Jinbao stencil 49775 completed weld SP038-01-010 with a welding current of approximately 300 amps and 31.7 volts and weld SP038-01-009 with a welding current of approximately 300 amps and 31.2 volts. Welder Mr. Xin Meng stencil 53742 completed weld SP038-01-006 with a welding current of approximately 310 amps and 31.3 volts and weld SP038-01-005 with a welding current of approximately 320 amps and 31.3 volts. Welder Mr. Shi Yan Hao stencil 53604 completed weld SP038-01-002 with a welding current of approximately 295 amps and 31.5 volts and weld SP038-01-001 with a welding current of approximately 285 amps and 30.5 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC is in the process of installing a new overhead gantry welding machine that is located east of the existing overhead gantry welding machine. This equipment appears to be intended for completing OBG side plate stiffener fillet welds. See the photograph below for additional information.



Summary of Conversations:

See above for summary of 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

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for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
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Reviewed By:	Cochran,Jim	QA Reviewer
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