

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-001167**Date Inspected:** 08-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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 Wei Qing, Wu Ming Kai

Bay 3:

The QA Inspector observed three ZPMC welders using welding procedure specification WPS-B-T-2132-3 using the flux cored welding process for fillet welds on six OBG side plate SP013 stiffener welds at the same time. ZPMC has multiple flux cored welding 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 450 mm per minute. 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 20 liters per minute as required by the WPS. Welder Mr. Liz Hanqian stencil 48810 completed weld SP013-01-040 with a welding current of approximately 290 amps and 29.4 volts and weld SP013-01-041 with a welding current of approximately 285 amps and 30.0 volts. Welder Mr. Xin Meng stencil 53742 completed weld SP013-01-036 with

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a welding current of approximately 305 amps and 31.4 volts and weld SP013-01-037 with a welding current of approximately 320 amps and 29.3 volts. Welder Mr. Li Shuliang stencil 48801 completed weld SP013-01-032 with a welding current of approximately 305 amps and 30.6 volts and weld SP013-01-033 with a welding current of approximately 300 amps and 29.8 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Liu Zihong stencil 62447 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL71B side plate SP011 stiffener weld SP011-01-027 and SP011-01-028. The QA Inspector observed a welding current of approximately 260 amps 28.0 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.

The QA Inspector observed ZPMC welder Mr. Wang Zhonghua stencil 53753 is using welding procedure specification WPS-B-P-2112-FCM using the shielded metal arc welding process for fillet tack welds on OBG PL64B side plate SP003 stiffener weld SP003-01-019 and SP003-01-020. The QA Inspector observed E7018 4.0 mm diameter electrodes, a welding current of approximately 165 amps 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.

QA Inspector observed ZPMC welder Ms. He Yu Mei stencil 48625 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL79A side plate SP023 stiffener welds SP023-01-021 and SP066-01-022. The QA Inspector observed a welding current of approximately 280 amps, 28.5 volts and the base material has a minimum preheat temperature of 20° C. Items observed by the QA Inspector appear to comply with project specifications.

ZPMC personnel informed the QA Inspector there are seventeen steel plates that are ready to have check samples taken for testing. The QA Inspector assigned the following lot numbers to seventeen check sample plates. All samples were a minimum of 460 mm long and 355 mm wide with the long axis perpendicular to the direction of roll.

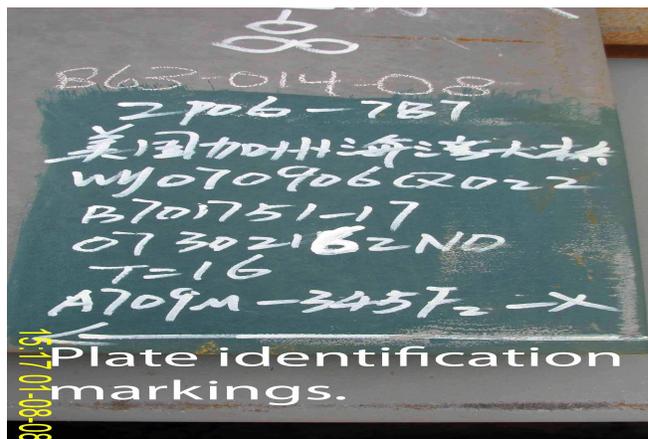
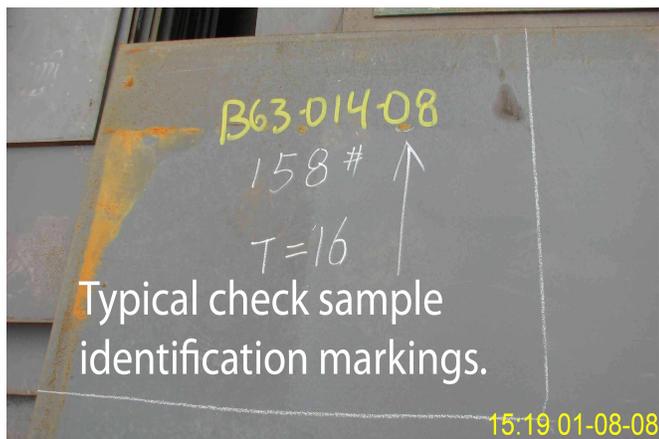
Lot Number	Heat Number
B63-001-08	WY070746Q074
B63-002-08	WY070406Q035
B63-003-08	WY070206Q174
B63-004-08	WY070914A153
B63-005-08	WY070406Q115
B63-006-08	WY070746Q150
B63-007-08	WY070906Q001
B63-008-08	WY070746Q152
B63-009-08	WY070906Q131
B63-010-08	WY070906Q006
B63-011-08	WY070906Q007
B63-012-08	WY071006Q156
B63-013-08	WY070226Q042

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B63-014-08 WY070906Q022
B63-015-08 WY070406Q152
B63-016-08 WY070906Q027
B63-017-08 WY070906Q159

See photographs below showing typical check samples.



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 for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer