

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-003054**Date Inspected:** 05-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**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:**

CWI: Mr. Wu Ming Kai and Mr. Sun Wei

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) Fabrication:

At around 2045 hours American Bridge / Fluor CWI representative Mr. Kevin Dye informed the QA Inspector that ten (10) each closed rib production monitoring tests (PMT) macro etch specimens representing deck plates DP-609-001 closed rib welds have been inspected by ZPMC and American Bridge / Fluor CWI representatives Mr. Art Peterson and Mr. Kevin Dye. Mr. Dye said nine macroetch specimens are acceptable and specimen 3-4 has a lack of fusion indication is 0.5 mm long and is acceptable. Mr. Dye did not appear to sign the ZPMC PMT Report for DP-609-001. The QA Inspector observed specimen 3-4 has a lack of fusion type indication near the top toe of the weld and this area is discolored due to staining of the base material, and the remaining nine macroetch specimens appear to comply with project specifications. Due to the time of day the QA Inspector did not have sufficient time to perform digital photographs of the macroetch specimens prior to the end of the shift.

Bay 1

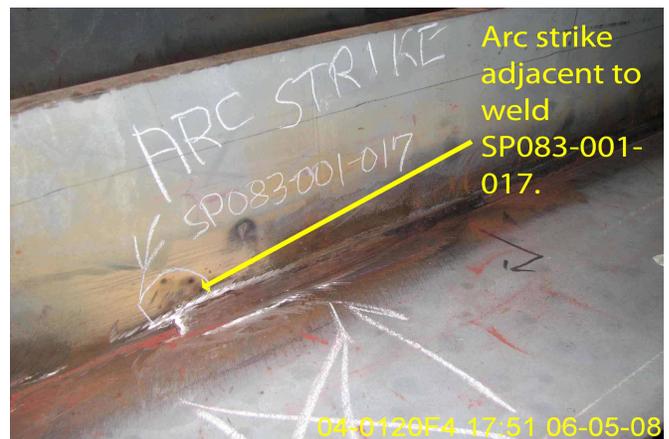
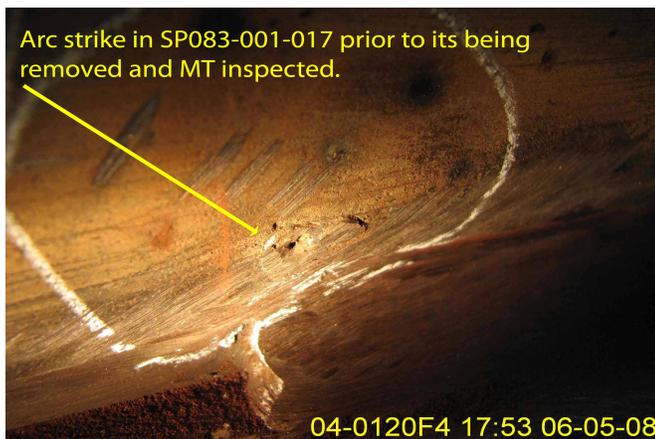
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The QA Inspector observed two ZPMC welders making gas metal weld arc groove root passes on six OBG deck plate DP609-001 closed rib stiffener welds at the same time. ZPMC has multiple flux cored welding manipulators attached to a movable gantry that runs on a track along the length of the stiffener plates. The QA Inspector observed a welding travel speed of approximately 530 mm per hour, the base material has a minimum preheat temperature of 20° C and both shielding gas flow meters appear to be within an acceptable range as listed in the welding procedure specification. As the welding commences, each of the welders is responsible one of the flux cored welding heads. Welder Mr. Xiang Huan Feng, stencil 59416 completed weld DP609-001-003 with a welding current of approximately 370 amps and 30.0 volts. Welder Mr. Xiang Jie, stencil 59378 completed weld DP609-001-004 with a welding current of approximately 375 amps and 30.0 volts. Items observed by the QA Inspector appear to comply with project specifications. See above concerning information related to macroetch weld inspections for this deck panel.

Bay 3

The QA Inspector performed random visual and magnetic particle inspections of side plate stiffener welds SP083-001-005 through -008, -017 through -020 and -029 through -032, and stiffener welds SP088-001-005 through -008, -017 through -020 and -029 through -032. Areas that were MT inspected by the QA Inspector appear to comply with project specifications. SP083-001-017 appeared to have an arc strike on the base material adjacent to the weld termination. The QA Inspector informed ZPMC QC CWI Mr. Wu Ming Kai, who said he will have the arc strike ground and the area will be MT'd. Later in the shift the QA Inspector observed this arc strike removal area has been marked by QC MT personnel as being MT acceptable. See the TL6028 MT Test Report and the photographs below of the arc strike for additional information.



Summary of Conversations:

No significant conversations occurred.

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 Patrick Lowry (858) 344-2712, who represents the Office of Structural Materials for your project.

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Inspected By:	Dawson,Paul	Quality Assurance Inspector
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Reviewed By:	Carreon,Albert	QA Reviewer
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