

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-003055**Date Inspected:** 06-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 300**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:**

ZPMC CWI: Mr. Tiang Jian Fei

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:**Production Monitoring Tests Macro Etches**

Production Monitoring Test Plate Macro Etch specimens for Deck Plates DP-556-001 and DP-591-001 were presented to day shift QA Inspector Mr. Greg Bertlesman for inspections. Earlier in the day Mr. Bertlesman and QA Inspector Mr. Robert Cuellar observed and photographed one of the specimens being etched in Bay 1 has lack of fusion type indications, and the specimens presented to Mr. Bertlesman later in the day did appear to have the specific specimen that had previously been identified and photographed by QA personnel in Bay 1. Mr. Bertlesman had not recorded the identification number of the specimen with the lack of fusion, but QA personnel had taken photographs of this specimen. Mr. Bertlesman supplied this QA Inspector with photographs of the specimen with the lack of fusion and this QA Inspector compared the photographs with the fifteen Macro Etch specimens for Deck Plates DP-556-001 and DP-591-001 and it appears that the specimen 2-4 appears to have a similarly shaped heat affected area, and the macroetch surface appears to be dished as if material has been

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removed from the macroetch weld surface. ZPMC QC Inspector Mr. Testino informed the QA Inspector that the QA Inspectors are prohibited from removing any of the macroetch weld specimens from the QC office / bay 1 and all visual inspections and photography must take place in the field. The QA Inspector used portable photography equipment to obtain digital photographs of all fifteen macroetch samples in the QC field office adjacent to bay 1.

On June 5, 2008 at around 2045 hours the QA Inspector was informed 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. The ZPMC PMT report states the following: "ABF rejects 3-4, all other macros are acceptable and ABF accepts the PMT as a whole after being reviewed by Steve Lawton."

On June 5, 2008 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. Due to the time of day the QA Inspector did not have sufficient time to perform digital photographs of the macroetch specimens on June 5, 2008 prior to the end of the work shift. Today June 6, 2008 the QA Inspector made digital photographs of each of the macroetch specimens and the QA Inspector observed macroetch specimen 3-4 appears to have been re-etched and the macroetch specimen no longer has staining and the lack of fusion indication is no longer visible. The QA Inspector informed Mr. Dye that macroetch specimen 3-4 no longer represents the original condition of macroetch specimen that was originally inspected by Mr. Dye and this QA Inspector on June 5, 2008. Mr. Dye said he remembers the base material had been discolored and that he had obtained a digital photograph of macroetch specimen 3-4 when he was in the bay 1 QC office. Copies of the photographs obtained by the QA Inspector are posted on the Caltrans "Team China" common drive which is accessible to Quality Assurance Task Leaders and Structural Materials Representatives.

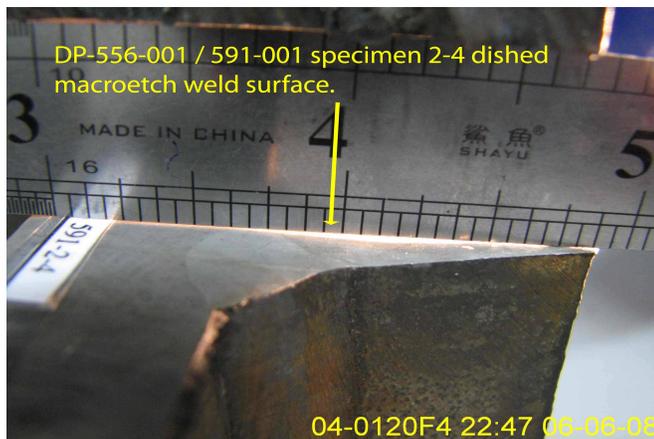
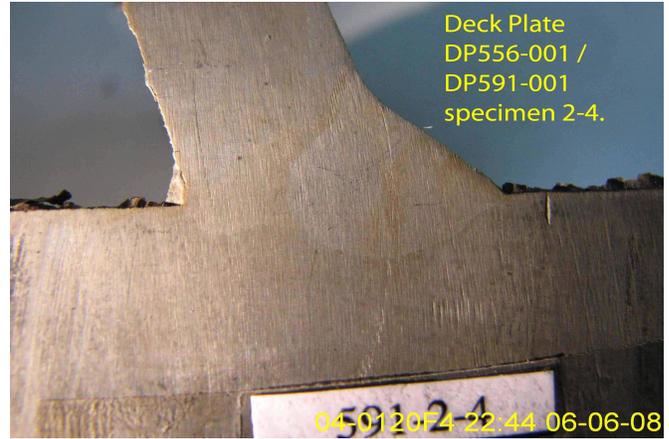
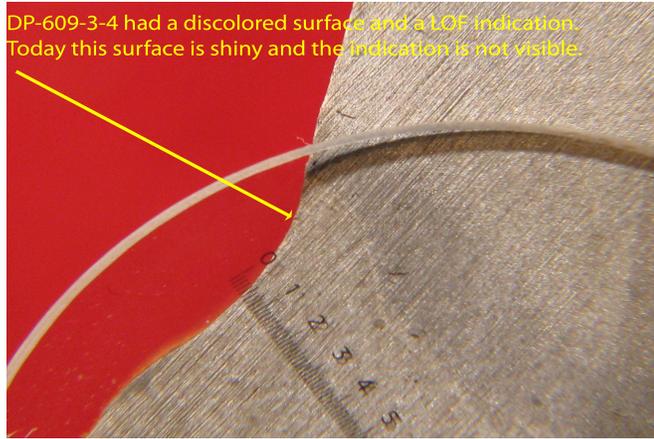
New Tower Shop Bay 1

The QA Inspector observed ZPMC welder Ms. Jiang Jian Fei stencil 41716 is using welding procedure specification WPS-B-T-2221-B-T-U3C-S to make submerged arc groove weld ESDSA286-A/G-6A. The QA Inspector observed a welding current of approximately 615 amps, 32.0 volts, a welding travel speed of 615 mm per minute and the base material appears to be between 110°C and 230°C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Ms. Chen-Hong Xia stencil 40460 is using welding procedure specification WPS-B-T-2231-B-P3-S to make submerged arc groove weld ESDSA286-A/G-6A. The QA Inspector observed a welding current of approximately 650 amps, 32.5 volts, a welding travel speed of 615 mm per minute and the base material appears to be between 110°C and 230°C. Items observed by the QA Inspector appear to comply with project specifications.

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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.

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