

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-001171**Date Inspected:** 02-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 Inspector: Wu Ming Kai, Xu Xianping

Bay 3:

On January 1, 2008 (yesterday) the QA Inspector observed the base material on the east end of stiffener plate SP075 adjacent to weld SP075-01-018 has been ground to a depth of approximately 1mm below flush. This grind area was weld repaired in the afternoon of January 1, 2008 and at the end of the shift ZPMC personnel had not completed grinding of the weld repair area. Today ZPMC QC/CWI Inspector Mr. Xu Xianping informed the QA that the weld repair area is visually acceptable and side plate SP075 is ready for QA visual inspections. QA Inspector performed random visual inspections of SP075 welds and the QA Inspector informed Mr. Xianping side plate SP075 welds appear to comply with project specifications. See the photograph below for additional information.

ZPMC QC/CWI Inspector Mr. Zu Xianping informed the QA Inspector that OBG PL039 base plate BP008

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stiffener welds are visually and magnet particle accepted and the welds are ready for QA inspections. This base plate contains welds BP008-01-013 through BP008-01-024. The QA Inspector observed a 1 mm deep grinding gouge on the base material near the upper edge of stiffener plate BP008-01-018 fillet weld. The QA Inspector also observed fillet weld BP008-01-021 has an area with weld overlap at the bottom toe of the weld and BP008-01-020 has a 1.5 mm deep grinding gouge at the top of the fillet weld. The QA Inspector asked ZPMC QC/CWI Inspector Mr. Xu Xianping if QC personnel had observed the grinding gouges or the weld overlap and Mr. Xianping said these areas had not been seen and they will be weld repaired. Following weld repair of the welds Mr. Xianping informed the QA Inspector the welds repairs are acceptable. The QA Inspector informed Mr. Xianping there is now a 1mm deep grinding gouge near the bottom toe of weld BP008-01-018 where the weld repair had been ground smooth. Following additional weld repairs of weld BP008-01-018 the QA Inspector informed Mr. Xianping base plate BP008 welds appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Li Schuliang stencil 48801 is using welding procedure specification WPS-345-FCAW-2G(2F)-Repair using the flux cored welding process to make a repair of the weld overlap on OBG base plate BP008 stiffener wells BP008-01-018. A review of Mr. Schuliang's ZPMC welder identification card reveals Mr. Schuliang is certified to weld in the 1F/1G position and this weld is being made in the 2G position. The QA Inspector asked ZPMC QC Inspector Mr. Zianping if Mr. Schuliang is certified to make this weld and Mr. Xianping later presented the QA Inspector with a ZPMC welder certification card indicating ZPMC welder Mr. Schuliang is certified to weld in the 3G/3F position. The QA Inspector observed Mr. Schuliang using 1.4 mm diameter E71T-1 welding electrode with a welding current of approximately 285 amps, 28.3 volts and the base material has a minimum preheat of 160° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector performed random magnetic particle inspections of portions of OBG PL039 base plate BP008 completed stiffener plate fillet welds BP008-01-013, BP008-01-014, BP008-01-022, BP008-01-023 and BP008-01-024. 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 PL106A side plate SP072 stiffener welds SP072-01-018. The QA Inspector observed a welding current of approximately 280 amps, 27.5 volts and the base material has a minimum preheat temperature of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

ZPMC QC/CWI Inspector Mr. Zu Xianping informed the QA Inspector that OBG side plate SP030 stiffener welds are visually and magnetic particle accepted and the welds are ready for QA inspections. The QA Inspector observed three locations were arc strikes adjacent to fillet weld SP030-01-023 have not been removed. The QA Inspector asked ZPMC QC/CWI Inspector Mr. Xu Xianping if QC personnel had observed the arc strikes and Mr. Xianping said these areas had not been previously seen. Mr. Zianping said ZPMC QC is going to reinspect all the welds on SP030 to ensure they are acceptable prior to asking for a second QA inspection. Note: ZPMC did not assign any workers to remove the arc strikes this shift.

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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