

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-001162**Date Inspected:** 30-Dec-2007**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: Xu Xian Ping, Wu Ming Kai

The QA Inspector observed ZPMC welder Mr. Zhang Feng stencil 49769 is using welding procedure WPS-B-P-2312-TC-P4 using the flux cored welding process for fillet tack welds on side plate SP005 weld SP005-01-008. The QA Inspector observed arc E7018 4.0 mm diameter electrodes, a welding current of approximately 180 amps and a minimum base material preheat temperature of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Wei Dashuai stencil 51246 is using welding procedure specification WPS-B-T-2232-2 to make flux cored fillet tack welds on OBG side plate SP009 stiffener welds SP009-01-025. The QA Inspector observed 1.4 mm diameter E71T-1 welding electrode with a welding current of approximately 280 amps, 28.0 volts and the base material has a minimum preheat of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

WELDING INSPECTION REPORT

(Continued Page 2 of 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 SP063 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 445 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. Welder Mr. Dong Jinbo stencil 49775 completed weld SP063-01-027 with a welding current of approximately 290 amps and 29.4 volts and weld SP063-01-026 with a welding current of approximately 300 amps and 29.0 volts. Welder Mr. Xin Meng stencil 53742 completed weld SP063-01-032 with a welding current of approximately 290 amps and 29.4 volts and weld SP063-01-031 with a welding current of approximately 295 amps and 29.4 volts. Welder Mr. Li Shuliang stencil 48801 completed weld SP063-01-036 with a welding current of approximately 310 amps and 28.8 volts and weld SP063-01-035 with a welding current of approximately 290 amps and 29.0 volts. Items observed by the QA Inspector appear to comply with project specifications.

ZPMC QC/CWI Inspector Mr. Xu Xian Ping informed the QA Inspector that ZMPC has completed visual of the fillet welds between stiffener plates and bottom plate SP077 and these welds are QC acceptable. Mr. Ping said ZPMC is almost completed with the magnetic particle (MT) inspections of these welds. The QA Inspector performed random visual inspection of weld SP077-01-018 and observed a 2 mm deep grinding gouge adjacent to the lower toe of the weld and 1mm deep in the stiffener plate. The QA Inspector asked Mr. Ping if QC had previously observed this grinding gouge and Mr. Ping said this gouge had been made when a crack had been removed following magnetic particle inspection of the weld. Mr. Ping said ZPMC will need to process a critical weld repair prior to performing a weld repair of the gouge. See the photographs 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 for your project.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Inspected By:	Dawson,Paul	Quality Assurance Inspector
----------------------	-------------	-----------------------------

Reviewed By:	Cochran,Jim	QA Reviewer
---------------------	-------------	-------------
