

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-007140**Date Inspected:** 21-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**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:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspector: Mr. Li Jia

On this date CALTRANS OSM 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:

OGB Assembly Yard

ZPMC issued "Inspection Notification Sheet" #3160 requesting QA to perform ultrasonic (UT) and magnetic particle (MT) inspections of OBG Drainage and Counterweight attachment plate welds on the top and side of OBW4. Prior to commencement of the nondestructive inspections, this QA Inspector performed random visual inspections of portions of the welds listed below and the QA Inspector observed welds OBW4B-10 and OBW4B-19 both have weld overlap at the bottom toes of the weld. See the photographs below for additional information. This QA Inspector informed ABF personnel who informed CWI Inspector Mr. Li Jia of the overlap and he will have ZPMC grind to welds with the overlap. Note: as of the end of the shift ZPMC had not removed the overlap. This QA Inspector performed magnetic particle inspections of the following welds: OBW4A-009, OBW4B-010, OBW4B-018, OBW4B-019 and performed ultrasonic inspections of the following welds: OBW4A-006, OBW4A-008, OBW4A-015, OBW4B-060 and OBW4B-061. These welds had previously been UT and MT inspected and accepted by ZPMC inspection personnel. This QA Inspector determined that except for the welds with overlap, items observed by this QA Inspector appear to comply with AWS D1.5 UT and MT

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

requirements. For additional information on these inspections see the TL6028 Magnetic Particle Test Report and the TL6027 Ultrasonic Test Report.

Tower Bay 10

This QA Inspector observed ZPMC welder Mr. Xue Huan, stencil 040634 is using flux cored welding procedure WPS-345-FCAW-1G(1F)-Repair to make repairs to tower stiffener to skin plate weld NSD1-FASA3-1E/E-1B. The QA Inspector observed a welding current of 305 amps, 32.5 volts and base material had been preheated using an electric heating element. The QA Inspector observed ZPMC Quality Control Inspection personnel monitoring this welding. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Yu Chaoye, stencil 053869 is using flux cored welding procedure WPS-345-FCAW-1G(1F)-Repair to make repairs to tower stiffener to skin plate weld NSD1-FASA3-1E/E-32B. The QA Inspector observed a welding current of 300 amps, 31.2 volts and base material had been preheated using an electric heating element. The QA Inspector observed ZPMC Quality Control Inspection personnel monitoring this welding. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Li Hanshan, stencil 048784 is using flux cored welding procedure WPS-345-FCAW-1G(1F)-Repair to make repairs to tower stiffener to skin plate weld NSD1-FASA3-1E/E-13B. The QA Inspector observed a welding current of 320 amps, 31.5 volts and base material had been preheated using an electric heating element. The QA Inspector observed ZPMC Quality Control Inspection personnel monitoring this welding. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Yu Yonglai, stencil 048378 is using flux cored welding procedure WPS-345-FCAW-1G(1F)-Repair to make repairs to tower stiffener to skin plate weld NSD1-FASA3-1E/E-25B. The QA Inspector observed a welding current of 310 amps, 30.3 volts and base material had been preheated using an electric heating element. The QA Inspector observed ZPMC Quality Control Inspection personnel monitoring this welding. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Mr. Chen Shangchun, stencil 046704 is using welding procedure specification WPS-B-T-4211-B-U3b-2 to complete shielded metal arc weld ESD1-FASA4-2A/E-4A. The QA Inspector observed that the base material where the weld was made had been preheated to above 110 degrees Celsius and a ZPMC QC Inspector is monitoring this welding. ZPMC QC personnel had recorded a welding current of 230 amps and the QA Inspector measured a welding current of approximately 225 amps. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

The QA Inspector observed ZPMC welder Mr. Yang Lei, stencil 040690 is using welding procedure specification WPS-B-T-4211-B-U3b-2 to complete shielded metal arc weld ESD1-FASA4-2A/E-4A. The QA Inspector observed that the base material where the weld was made had been preheated to above 110 degrees Celsius and a ZPMC QC Inspector is monitoring this welding. ZPMC QC personnel had recorded a welding current of 228

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

amps and the QA Inspector measured a welding current of approximately 250 amps. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

Summary of Conversations:

See above.

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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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

Reviewed By:	Clifford,William	QA Reviewer
---------------------	------------------	-------------