

**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-011331**Date Inspected:** 24-Dec-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**Summary of Items Observed:**

CWI Inspectors: Mr. Wang Chuan Ping, Mr. Xiu Xiaozhong

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. This QA Inspector observed the following:

**Tower Bay 10**

This QA Inspector observed ZPMC welder Mr. Zhang Bing Hua, stencil 053316 is using flux cored welding procedure WPS-365-FCM-3G(3F)-Repair to add weld material on the end of splice plate WSD1-SPSA3-3. This QA Inspector observed the base material had been preheated using a torch and ZPMC Quality Control CWI Mr. Liu Xiao Zhong confirmed the base material had been preheated prior to commencement of welding. This QA Inspector measured a used a welding current of approximately 215 amps and 26 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

**Tower Bay 11**

This QA Inspector observed ZPMC welder Mr. Bi Chun stencil 040343 is using flux cored welding procedure WPS-365-FCM-2G(2F)-Repair to add weld material on the end of splice plate SPSA3-66. This QA Inspector observed the base material had been preheated using electrical heating elements and ZPMC Quality Control

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

personnel confirmed the base material was not being overheated due to this welding. This QA Inspector measured a welding current of approximately 305 amps and 29.6 volts and Mr. Bi Chun appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Dong Yuqin, stencil 053116 is using flux cored welding procedure WPS-365-FCM-2G(2F)-Repair to add weld material on the end of splice plate SPSA3-66. This QA Inspector observed the base material had been preheated using electrical heating elements and ZPMC Quality Control personnel confirmed the base material had not been overheated due to this welding. This QA Inspector measured a welding current of approximately 305 amps and 29.5 volts and Ms. Dong Yuqin appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications

This QA Inspector observed ZPMC welder Ms. Dong Yumei stencil 054069 is using flux cored welding procedure WPS-365-FCM-2G(2F)-Repair to add weld material on the end of splice plate SPSA3-66. This QA Inspector observed the base material had been preheated using electrical heating elements and ZPMC Quality Control personnel confirmed the base material was not being overheated due to this welding. This QA Inspector measured a welding current of approximately 290 amps, 28.0 volts and Ms. Dong Yumei appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Pu Xuezhen, stencil 052075 is using flux cored welding procedure WPS-365-FCM-2G(2F)-Repair to add weld material on the end of splice plate SPSA3-62. This QA Inspector observed the base material had been preheated using electrical heating elements and ZPMC Quality Control personnel confirmed the base material was not being overheated due to this welding. This QA Inspector measured a welding current of approximately 290 amps, 28.0 volts and Ms. Pu Xuezhen appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Yu Jun, stencil 201825 is using flux cored welding procedure WPS-365-FCM-2G(2F)-Repair to add weld material on the end of splice plate SPSA3-62. This QA Inspector observed the base material had been preheated using electrical heating elements and ZPMC Quality Control personnel confirmed the base material was not being overheated due to this welding. This QA Inspector measured a welding current of approximately 320 amps, 29.6 volts and Mr. Yu Jun appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Xu Kauzhen, stencil 051413 is using submerged arc welding procedure specification WPS-B-T-2221-C-U2b-S-2 to make groove weld WSD1-FBSA4-1A/C-16B between west tower lift 4 skin plate B and skin plate C. This QA Inspector observed ZPMC Quality Control CWI Mr. Du Zhiqun monitoring this welding and this QA Inspector measured a welding current of approximately 680 amps and 32.5 volts. This QA Inspector observed ZPMC had preheated the base material using electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Liu Xiaoyan, stencil 207745 is using submerged arc welding procedure specification WPS-B-T-2221-C-U2b-S-2 to make groove weld WSD1-FBSA4-1A/C-16B between west tower lift 4 skin plate B and skin plate C. This QA Inspector observed ZPMC Quality Control CWI Mr. Du Zhiqun monitoring this welding and this QA Inspector measured a welding current of approximately 680 amps and 30.5 volts. This QA Inspector observed ZPMC had preheated the base material using electric heating elements.

---

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

---

Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Hua Gui Mei, stencil 050295 is using submerged arc welding procedure specification WPS-B-T-2221-C-U2b-S-2 to make groove weld WSD1-FBSA4-1A/C-17B between west tower lift 4 skin plate A and skin plate B. This QA Inspector observed ZPMC Quality Control CWI Mr. Du Zhiqun monitoring this welding and this QA Inspector measured a welding current of approximately 685 amps and 32.5 volts. This QA Inspector observed ZPMC had preheated the base material using electric heating elements.

Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Xioshui, stencil 040489 is using submerged arc welding procedure specification WPS-B-T-2221-C-U2b-S-2 to make groove weld WSD1-FBSA4-1A/C-17B between west tower lift 4 skin plate A and skin plate B. This QA Inspector observed ZPMC Quality Control CWI Mr. Du Zhiqun monitoring this welding and this QA Inspector measured a welding current of approximately 680 amps and 30.0 volts. This QA Inspector observed ZPMC had preheated the base material using electric heating elements.

Items observed on this date appeared to generally comply with applicable contract documents.

### Blast Shop #1

This QA Inspector performed random visual inspections of the external surfaces of OBG Segment 8AW as per ZPMC Notice of Inspection request number 2334. ZPMC had recently completed grit blasting of these areas and the steel surfaces were mostly free of rust oxide and other contaminants that had previously obscured portions of the plate and weld surfaces. This QA Inspector visually observed approximately 40 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections. The areas were marked with colored chalk and ZPMC workers used electric grinders to remove the visually unacceptable areas and ZPMC performed magnetic particle (MT) inspections of the arc strike removal areas after they have been ground.

### 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 Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

---

<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
----------------------	-------------	-----------------------------

---

<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer
---------------------	----------------	-------------