

**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-014862**Date Inspected:** 28-May-2010**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**Summary of Items Observed:**

CWI Inspectors: Mr. Feng Ya Jun, Mr. Zhu Zhong Hai, Mr. Tian Lei, Mr. Liu Fu Wen, 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. This QA Inspector observed the following:

**OBG Bay 3**

This QA Inspector observed ZPMC welder Mr. Cheng Xueying, stencil 050977 is using flux cored welding procedure WPS-B-T-2132-3 to make OBG segment floor beam welds FB3151-001-045 and -046. This QA Inspector observed ZPMC QC Inspector Mr. Guo Yuan Ting has recorded a welding current of 305 amps and 29.7 volts. This QA Inspector observed that Mr. Cheng Yueying appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tu Zhi Wu, stencil 214945 is using flux cored welding procedure WPS-B-T-2132-3 to make OBG floor beam weld FB3147-001-045. This QA Inspector observed a welding current of approximately 290 amps and 29.5 volts. This QA Inspector observed Mr. Tu Zhi Wu appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

**OBG Segment Trial Assembly**

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This QA Inspector observed ZPMC welder Mr. Han Yiaofeng, stencil 054467 is using shielded metal arc procedure WPS-345-SMAW-3G(3F)-Repair-FCM-1 to make repair weld OBW9B-004 on OBG segment 9AE to 9BE bikepath side plates. This repair weld is being made as a result of ultrasonic rejections and is being tracked on weld repair document B-WR13209. This QA Inspector observed the welding electrodes adjacent to where Mr. Han Yiaofeng is welding are being stored in a portable electrode oven which is not connected to an electric power cable and the shielded metal arc welding electrodes appear to be at a slightly elevated temperature. This QA Inspector informed ZPMC QC Inspector Mr. Wang Li Yang that the welding electrode oven is not connected to any power supply and Mr. Wang Li Yang had ZPMC welder Mr. Han Yiaofeng connect the electrode oven to a power supply. This QA Inspector measured a welding current of approximately 155 amps and Mr. Han Yiaofeng appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhong Hua, stencil 053753 is using shielded metal arc procedure WPS-345-SMAW-3G(3F)-Repair-FCM-1 to make repair weld SEG048D-034 between a longitudinal diaphragm and the floor beam at OBG segment 8CE panel point 71 on the cross beam side. This repair weld is being made as a result of ultrasonic rejections and is being tracked on weld repair document B-WR13214. This QA Inspector observed the welding electrodes adjacent to where Mr. Wang Zhong Hua is welding are being stored in a portable electrode oven which is connected to an electric power cable and feels warm to the touch. This QA Inspector measured a welding current of approximately 150 amps and Mr. Wang Zhong Hua appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Sun Lingling, stencil 048047 is using shielded metal welding procedure WPS-B-P-2113-TC-U4b-FCM-1 to make OBG weld SEG048H-019 inside cross beam CB10. This QA Inspector observed Mr. Sun Lingling appears to be certified to make this weld ZPMC CWI Mr. Feng Ya Jun has documented a welding current of 145 amps. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhenbing, stencil 216086 is using shielded metal welding procedure WPS-B-P-2113-TC-U4b-FCM-1 to make OBG weld SEG048J-137 inside cross beam CB10. This QA Inspector observed Mr. Wang Zhenbing appears to be certified to make this weld and this QA Inspector measured a welding current of approximately 150 amps. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Bian Henggui, stencil 051359 is using shielded metal welding procedure WPS-B-P-2113-TC-U4b-FCM-1 to make OBG weld SEG047J-031 inside cross beam CB10. This QA Inspector observed Mr. Bian Henggui appears to be certified to make this weld ZPMC CWI Mr. Feng Ya Jun has documented a welding current of 148 amps. Items observed on this date appeared to generally comply with applicable contract documents.

ABF issued "Inspection Notification Sheet" number 05282010-1 item #1 informing QA that on 05-28-2010 at 19:30 hours ABF Inspectors will be performing ultrasonic (UT) inspections of repaired welds OBW7C-009 and OBW7C-010 which joins OBG segment 7DW to 7EW side plates on the cross beam side. These welds are located

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in the trial assembly area. ABF/Sense UT Inspectors informed this QA Inspector that these weld repair areas are accepted. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and the weld repairs appear to comply with project specifications. Items observed on this date appeared to generally comply with applicable contract documents. Note: These inspections are being documented and tracked on "Verification Witness Request" documents. See the TL-6027 UT report for additional information concerning this inspection.

### 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.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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