

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024048**Date Inspected:** 26-May-2011**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: Wang Jun, Cao Hai Zhou

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 Trial Assembly**

This QA Inspector observed ZPMC welder Mr. Shen Tianju, stencil 215083 used shielded metal arc welding procedure WPS-345-SMAW-1G(1F)-Repair-1 to make weld repairs of splice plate X3728B base metal where temporary welds had been made to align this plate during drilling of bolt holes. This QA Inspector observed Mr. Shen Tianju appeared to be certified to make these welds. ZPMC QC informed this QA Inspector that weld repair document B-CWR-2968 documents repairs of this plate. ZPMC appears to have used torch to preheat the base material prior to welding and the welding electrodes are being stored in a portable electrode storage oven that was warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Kesong, stencil 070009 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make repairs to the exterior of OBG segment 13AW cross beam side plate where temporary welds had been removed. ZPMC QC informed this QA Inspector that weld repair document B-CWR-2962 documents repairs of these areas. Later in the shift Mr. Xu Kesong used shielded

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metal arc welding procedure WPS-B-P-2214-FCM to make OBG segment 13AW welds OBW13B-016 and 017. This QA Inspector observed a welding current of approximately 180 amperes (amps), the welding electrodes were stored in a heated portable electrode storage oven, Mr. Xu Kesong appeared to be certified to make these welds and the base material was preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liao Yanfei, stencil 066398 used shielded metal arc welding procedure WPS-B-P-2213-TC-U4B-FCM-1 to make OBG segment 13AW weld SEG3013AH-033. This QA Inspector observed a welding current of approximately 150 amps the base material had been preheated with electric heaters and Mr. Liao Yanfei appeared 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. Li Jian stencil 067829 used shielded metal arc welding procedure WPS-345-SMAW-1G(1F)-FCM-Repair-1 to make repairs to weld OBW13D-003. ZPMC QC informed this QA Inspector that weld repair document B-WR-21077 documents repairs of this weld. This QA Inspector observed a welding current of approximately 180 amps, the welding electrodes are being stored in a heated portable electrode storage oven, Mr. Li Jian appeared to be certified to make this weld and the base material was preheated with an electrical heater prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Fei Cheng Fang stencil 066239 used flux cored welding procedure specification WPS-B-T-2233 to make OBG segment 14W weld SEG3020V-038 and later in the shift Mr. Fei Cheng Fang used welding procedure specification WPS-B-T-2233 to make repairs of OBG segment 13CW weld SEG3015B-207. This weld repair appears to be due to an ultrasonic rejection and ZPMC QC was not able to locate a weld repair document for this weld. This QA Inspector observed a welding current of approximately 280 amps, 24.5 volts, Mr. Fei Cheng Fang appeared to be certified to make this weld and the base materials were preheated with an electric heater. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Ya, stencil 067520 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make repairs to weld OBW13D-005. ZPMC QC informed this QA Inspector that weld repair document B-WR-21077 documents repairs of this weld. This QA Inspector observed a welding current of approximately 150 amps, the welding electrodes are being stored in a heated portable electrode storage oven, Mr. Liu Ya appeared to be certified to make this weld and the base material was preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Cunnang, stencil 070101 used flux cored welding procedure WPS-B-T-2133-ESAB to make OBG Segment 14W welds SEG3020C-091 and 092. This QA Inspector observed a welding current of approximately of approximately 270 amps, 25.5 volts, the base material had been preheated with electric heaters and Mr. Wu Cunnang appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

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## 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 James Devey +8615000026784, 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>	Riley,Ken	QA Reviewer

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