

**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-010559**Date Inspected:** 05-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. Li Yan Hua, Mr. You Qi Guo

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 11

This QA Inspector observed ZPMC welder stencil 049561 is using flux cored welding procedure WPS-B-T-4333-TC-P5-F to make west tower lift 4 weld WSTL4-2T/L-097. This QA Inspector observed CWI Mr. You Qi Guo has recorded a welding current of 200 amps and 26.3 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Daping, stencil 040736 is using flux cored welding procedure WPS-B-T-4333-TC-P5-F to make west tower lift 4 weld WSTL4-2L/L-094. This QA Inspector observed CWI Mr. You Qi Guo has recorded a welding current of 200 amps and 25.9 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhu Xuexin, stencil 053310 is using shielded metal arc process to tack weld temporary plates on the end of East tower lift tower "B" skin splice plate that is to be connected between

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tower lift 2 and lift 3. This QA Inspector observed ZPMC appears to be preparing to extend the length of this splice plate and these plates will later be cut off, once the weld buildup is complete. This QA Inspector observed Mr. Zhu Xuexin is certified to make this weld and ZPMC is using a torch to preheat the base material prior to making the tack welds. Items observed on this date appeared to generally comply with applicable contract documents.

### Segment 7CW – Outside Yard near Blast Shop #1

This QA Inspector observed ZPMC welder Mr. Tian Zhaoquan, stencil 045246, and Mr. Li Jun, stencil 051348 are using shielded metal arc welding procedure WPS-345-SMAW-4F-(4F)-FCM-Repair-1 to make 4G (overhead) position shielded metal arc weld repair of OBG weld SEG037A-032 between 7CW side plate and counterweight corner assembly near panel point 54. This QA Inspector observed both welders have a welding current of approximately 165 amps and appear to be certified to perform 4G position welding. This QA Inspector observed these weld repair grooves appear to have been ground to a bright metal condition and the base material was preheated with a torch prior to welding. This QA Inspector observed ZMC QC Inspector Mr. Wang Xiang Pin appears to be monitoring this welding. This QA Inspector attempted to ask Mr. Wang Xiang Pin for welding information related to this repair welding and Mr. Wang Xiang Pin did not appear to have any welding documents to indicate the reason for the weld repairs. This QA Inspector requested that the responsible ZPMC QC Certified Welding Inspector (CWI) come to this location and explain the why these welding repairs were necessary. Approximately 40 minutes later ZPMC CWI Mr. Li Yan Hua arrived and he obtained a weld repair document from the ZPMC QC office and he showed this QA Inspector a weld repair document that indicates that earlier in the day ZPMC ultrasonic inspectors had found multiple locations in this weld as being rejectable and this welding is to repair these locations. The welding documents he presented to this QA Inspector do not have any number assigned to allow tracking of these repairs. Mr. Li Yan Hua informed this QA Inspector that once the welding is complete that ZPMC QC Inspector Mr. Wang Xiang Pin will complete the welding documentation. This QA Inspector measured two of the accessible gouged weld areas and they appeared to be approximately 11 mm deep and are not deep enough to be classified as a critical weld repair. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zang Yanbo, stencil 045196 is using shielded metal arc welding procedure WPS-345-SMAW-4F-(4F)-FCM-Repair-1 to make 4G (overhead position) shielded metal arc weld CA047-004 repair of OBG weld CA047-004 segment 7CW counterweight corner assembly weld near panel point 53. This QA Inspector observed a welding current of approximately 155 amps. This QA Inspector observed these weld repair areas appear to have been ground to a bright metal condition, the base material was preheated with a torch prior to welding and Mr. Zang Yanbo appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG BAY 14

This QA Inspector observed ZPMC welder Ms. Li Jiao, stencil 049861 is using shielded metal arc welding procedure specification WPS-B-P-2211-B-U2-FCM to make tack weld SEG3003W-007-009 between side plate SP3021A and SP3022A. This QA Inspector observed a welding current of approximately 150 amps and Ms. Li Jiao appears to be certified to make this weld. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is hot to the touch and the

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base material was preheated with a torch prior to making the tack welds. Items observed on this date appeared to generally comply with applicable contract documents.

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