

**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-018706**Date Inspected:** 12-Nov-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: ZPMC: Mr. Li Yan Hua, Mr. Yu Jiao, Mr. Xu Tao

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 14**

This QA Inspector observed ZPMC welder Mr. Kua Wen Shan stencil 054013 used shielded metal arc welding procedure specification WPS-B-P-2113-TC-U4B-F to make OBG segment 13AE weld SEG3007B-125. This QA Inspector observed ZPMC CWI Mr. Li Yan Hua had recorded a welding current of 146 amps and Mr. Kua Wen Shan 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. Wang Li, stencil 044772 used shielded metal arc welding procedure specification WPS-B-P-2113-TC-U4B-F to make OBG segment 13AE weld SEG3007C-170. This QA Inspector observed ZPMC CWI Mr. Li Yan Hua had recorded a welding current of 158 amps and Mr. Wang Li appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Huang Hongpei, stencil 037705 used flux cored welding procedure WPS-B-T-2233-TC-P4B-F to make OBG segment 13AE weld SEG3007F-033. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang had recorded a welding current of 207 amps and 25.6 volts. This QA Inspector observed Mr. Huang Hongpei appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Shi Jiabao, stencil 068494 used flux cored welding procedure WPS-B-T-2233-TC-P4B-F to make OBG segment 13AE weld SEG3007G-019. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang had recorded a welding current of 201 amps and 25.4 volts. This QA Inspector observed Mr. Shi Jiabao appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure WPS-B-T-2231-TC-P4B-F to make OBG segment 14E weld SEG3019A-009. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang Ping had recorded a welding current of 317 amps and 30.5 volts. This QA Inspector observed Mr. Chen Chuanzong appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 208035 used flux cored welding procedure WPS-B-T-2232-TC-P4-F to make OBG segment 13AE weld SEG3007D-166. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang had recorded a welding current of 310 amps and 30.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 068920 used flux cored welding procedure WPS-B-T-2232-TC-P5-F to make OBG segment 13AE weld SEG3007AX-010. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang had recorded a welding current of 314 amps and 30.8 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 217805 used flux cored welding procedure WPS-B-T-2232-TC-P4-F to make OBG segment 13AE weld SEG3007M-196. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang had recorded a welding current of 310 amps and 30.2 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 047790 used flux cored welding procedure WPS-B-T-2232-TC-P4-F to make OBG segment 13AE weld SEG3007N-267. This QA Inspector observed ZPMC QC Inspector Mr. Wang Xiang had recorded a welding current of 317 amps and 30.4 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Hong Liang, stencil 200113 used shielded metal arc welding procedure specification WPS-B-P-2113-TC-U4B-FCM-1 to make OBG segment 13AE welds SEG3007M-222 and 227. This weld joins a stiffener plate to a floor beam near panel point PP119. This QA Inspector measured a welding current of approximately 165 amps, the welding electrodes were stored in a portable rod oven which was warm to the touch and Mr. Hong Liang appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Ms. Li Jiao, stencil 049861 used shielded metal arc procedure WPS-B-P-2211-FCM-1 to make OBG segment welds SEG3007P-045 and 057. This QA Inspector observed Ms. Li Jiao has a welding current of approximately 170 amps. This QA Inspector observed Ms. Li Jiao appeared to be certified to make this weld and the shielded metal arc welding electrodes were stored in an electrically heated electrode storage container that was connected to the welding power supply cable. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Bi Laishu, stencil 045280 used flux cored welding procedure WPS-345-FCAW-2G(2F)-Repair-1 to make OBG segment 13CW repairs of weld SEG3015M-060 through 064 in accordance with weld repair document B-WR16840. These repair welds are to resolve ultrasonic rejections. This QA Inspector observed Mr. Bi Laishu appeared to be certified to make this weld and ZPMC QC Inspector Mr. Li Ping had recorded a welding current of 307 amps and 30.2 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Hui Ye, stencil 045143 used flux cored welding procedure WPS-345-FCAW-2G(2F)-Repair-1 to make OBG segment 13CW repairs of weld SEG3015N-269 through 273 in accordance with weld repair document B-WR16894. These repair welds are to resolve ultrasonic rejections. This QA Inspector observed Mr. Yu Hui Ye, appeared to be certified to make this weld and ZPMC QC Inspector Mr. Li Ping had recorded a welding current of 307 amps and 30.2 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welders with stencils 069683, 067184, 066687, 066439 and 067601 used flux cored welding procedure WPS-B-T-2233-TC-U4B-F to make stiffener plate welds at segments SEG3013F, G, H, J, K, L, AT, AV and AX. These welds are located at OBW segment 13AW near panel points PP119 and PP120. This QA Inspector observed ZPMC Mr. Li Ping has recorded a welding current of 209 amps and 24.8 volts for these welders. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG Bay 16

This QA Inspector observed ZPMC welder Mr. Qui Yilian, stencil 206296 used flux cored welding procedure WPS-B-T-2132 to make traffic barrier welds W5-SB11-065-100 through -105. This QA Inspector observed ZPMC QC Inspector Mr. Wang Wei Ming has recorded a welding current of 295 amps, 30.4 volts and Mr. Qui Yilian, 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. Xu Kunlei, stencil 220314 used flux cored welding procedure WPS-B-T-2132 to make traffic barrier welds W5-SB11-065-100 through -105. This QA Inspector observed ZPMC QC Inspector Mr. Wang Wei Ming has recorded a welding current of 310 amps, 29.8 volts and Mr. Xu Kunlei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC personnel performing magnetic particle inspection of various welds on suspender bracket SB023-104E. See the photograph below for additional information.



## 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 Devy +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>	Carreon,Albert	QA Reviewer

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