

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017803**Date Inspected:** 02-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 Inspector: ZPMC: Mr. Lv Li Qing

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 13

This QA Inspector observed ZPMC welder Mr. Liu Qing Tian, stencil 066359 used flux cored welding procedure WPS-B-T-2233-TC-U5-F to make OBG segment 14AE grillage weld SA7038-036. This QA Inspector measured a welding current of approximately 255 amps and 25 volts. This QA Inspector observed that the maximum welding current listed in the WPS is 223.2 amps and that Liu Qing Tian has a welding current that is approximately 30 amps above this maximum limit. This QA Inspector showed ZPMC QC Inspector Mr. Lv Li Qing that the welding current is above the maximum and Mr. Lv Li Qing adjusted the welding current to approximately 220 amps. This QA Inspector Mr. Liu Qing Tian appeared to be certified to make this weld and the base materials were preheated with electric heaters prior to commencement of welding. Items observed on this date do not appear to fully comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Li Shoufu stencil 066674 used flux cored welding procedure

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WPS-B-T-2233-TC-U5-F to make OBG segment 14AE grillage weld SA7038-050. This QA Inspector measured a welding current of approximately 215 amps and 25.5 volts. This QA Inspector observed Mr. Li Shoufu appeared to be certified to make this weld and the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ye Bing stencil 066733 used flux cored welding procedure WPS-B-T-2233-TC-U5-F to make OBG segment 14AE grillage weld SA7038-064. This QA Inspector measured a welding current of approximately 215 amps and 26 volts. This QA Inspector observed Mr. Ye Bing appeared to be certified to make this weld and the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Wan Youxiang, stencil 066912 used flux cored welding procedure WPS-B-T-2233-TC-P4-F to make OBG segment 14E grillage weld AP3031-001-496 along with other similar stiffener plate welds. This QA Inspector measured a welding current of approximately 260 amps and 25 volts. This QA Inspector observed that the maximum welding current listed in the WPS is 223.2 amps and that Mr. Wan Youxiang has a welding current that is approximately 35 amps above this maximum limit. This QA Inspector showed ZPMC QC Inspector Mr. Lv Li Qing that the welding current is above the maximum and Mr. Lv Li Qing adjusted the welding current to approximately 215 amps. This QA Inspector Mr. Wan Youxiang appeared to be certified to make this weld observed and the base materials were preheated with electric heaters prior to commencement of welding. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhao Shanlun, stencil 066683 used flux cored welding procedure WPS-B-T-2233-TC-P4-F to make OBG segment 14E grillage weld AP3031-001-544 along with other similar stiffener plate welds. This QA Inspector measured a welding current of approximately 220 amps and 25 volts. This QA Inspector observed Mr. Zhao Shanlun appeared to be certified to make this weld and the base materials were preheated with electric heaters prior to welding. 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-P4-F to make OBG segment 14E grillage weld AP3031-001-552 along with other similar stiffener plate welds. This QA Inspector measured a welding current of approximately 200 amps and 27.5 volts. This QA Inspector observed Mr. Shi Jiabao appeared to be certified to make this weld and the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Chen Dinghang, stencil 067138 used flux cored welding procedure WPS-B-T-2233-TC-P4-F to make OBG segment 14E grillage weld AP3031-001-552 along with other similar stiffener plate welds. This QA Inspector measured a welding current of approximately 200 amps and 27.5 volts. This QA Inspector observed Mr. Chen Dinghang appeared to be certified to make this weld and the base materials were preheated with electric heaters prior to welding. 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-B-U2-FCM-1 to tack weld CJP weld DP3106-001-075. This QA Inspector observed Ms. Li Jiao has a welding current of approximately 160 amps and the base materials were preheated with a torch prior to commencement of welding. 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. Bian Henggui stencil 051359 used shielded metal arc welding procedure WPS-B-P-2313-TC-P4-FCM to make OBG segment 13AE tack weld SEG3007AZ-061. This weld attached stiffener plate X3461D a floor beam. This QA Inspector measured a welding current of approximately 170 amps and Mr. Bian Henggui appeared to be certified to make this weld, the base material was preheated with a torch and the welding electrodes were stored in a portable rod oven which 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. Hu Yancheng stencil 049339 used shielded metal arc welding procedure WPS-B-P-2313-TC-P4-FCM to make OBG segment 13AE tack weld SEG3007H-090. This QA Inspector observed ZPMC QC CWI Mr. Lv Li Qing has recorded a welding current of 175 amps, the base material was preheated with a torch and Mr. Hu Yancheng 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. Sun Ling Ling stencil 048047 used shielded metal arc welding procedure WPS-B-P-2313-TC-P4-FCM to make OBG segment 13AE tack weld SEG3007H-092. This QA Inspector observed a welding current of approximately 170 amps, the base material was preheated with a torch and Mr. Sun Ling Ling appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.



### Summary of Conversations:

See Above.

### Comments

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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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