

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-017788**Date Inspected:** 04-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 066782 used flux cored welding procedure WPS-B-T-2233-TC-U5-F to make OBG segment 14AE grillage weld SA7038-032. This QA Inspector measured a welding current of approximately 220 amps and 28.5 volts. This QA Inspector observed that the maximum welding current voltage in the WPS is 27.5 volts and that Mr. Ye Bing has a welding voltage is approximately 10 volts above this maximum limit. This QA Inspector showed ZPMC QC Inspector Mr. Lv Li Qing agreed the welding voltage is above the maximum and Mr. Lv Li Qing adjusted the welding voltage to approximately 27.5 volts. This QA Inspector observed the base materials were heated with electric heaters to preheat and maintain the base material temperature of this weld joint. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Shoufu stencil 066674 used flux cored welding procedure WPS-B-T-2233-TC-U5-F to make OBG segment 14AE grillage weld SA7038-046. This QA Inspector measured

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a welding current of approximately 210 amps and 26.5 volts. This QA Inspector observed Mr. Li Shoufu appeared to be certified to make this weld and the base materials were heated with electric heaters to preheat and maintain the base material temperature of this weld joint. 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 27.5 volts. This QA Inspector observed Mr. Ye Bing appeared to be certified to make this weld and the base materials were heated with electric heaters to preheat and maintain the base material temperature of this weld joint. 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 procedures WPS-B-T-2233-TC-P4-F and WPS-B-T-2233-TC-U4B-F to make OBG segment 14E grillage welds AP3031-001-312, AP3031-001-313 along with other similar stiffener plate welds. This QA Inspector measured a welding current of approximately 220 amps and 27.5 volts. This QA Inspector observed Mr. Wan Youxiang 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. Zhao Shanlun, stencil 066683 used flux cored welding procedure WPS-B-T-2233-TC-P4-F and WPS-B-T-2233-TC-U4B-F to make OBG segment 14E grillage welds AP3031-001-892, AP3031-001-893 along with other similar stiffener plate welds. This QA Inspector observed Mr. Lv Li Qing has recorded a welding current of 212 amps and 26.2 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 and WPS-B-T-2233-TC-U4B-F to make OBG segment 14E grillage welds AP3031-001-676, AP3031-001-697 along with other similar stiffener plate welds. This QA Inspector observed Mr. Lv Li Qing has recorded a welding current of 217 amps and 26.5 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.

This QA Inspector observed ZPMC welder Mr. Chen Dinghang, stencil 067138 used flux cored welding procedure WPS-B-T-2233-TC-P4-F and WPS-B-T-2233-TC-U4B-F to make OBG segment 14E grillage welds AP3031-001-408, AP3031-001-409 along with other similar stiffener plate welds. This QA Inspector observed Mr. Lv Li Qing has recorded a welding current of 216 amps and 26.5 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.

This QA Inspector observed ZPMC welder Mr. Xu Zichuan, stencil 205098 used shielded metal arc welding procedure specification WPS-B-P-2211-B-U2-FCM-1 to complete tack welds between OBG segment 13CW deck

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plate DP3146-001 and DP3342A on segment SEG3015-001 groove weld. This QA Inspector observed Mr. Xu Zichuan appeared to be certified to make this weld and the base materials did not appear to have been preheated prior to welding. This QA Inspector informed ZPMC QC Inspector Mr. Wang Xiang Ping that Mr. Xu Zichuan had no torch anywhere near where he had been tack welding and that the base materials did not appear to have been preheated prior to welding. This QA Inspector asked Mr. Wang Xiang Ping to have the responsible CWI come to where these tack welds had been made. When ZPMC CWI Mr. Lv Li Qing arrived he informed this QA Inspector that the tack welds that had been made without preheat will be removed and that all additional tack welds will be made after the base materials had been preheated. Items observed on this date do not appear to fully comply with applicable contract documents. See the photographs below for additional information.

This QA Inspector observed ZPMC welder Mr. Xu Fubao, stencil 200569 used shielded metal arc welding procedure specification WPS-B-P-2211-B-U2-FCM-1 to complete tack welds between OBG segment 13BW deck plate DP3135 PL3331A and PL3331B groove weld. This QA Inspector observed Mr. Xu Fubao appeared to be certified to make this weld and the base materials were preheated prior to welding. This QA Inspector measured a welding current of approximately 150 amps. Items observed on this date appeared to generally comply with applicable contract documents.

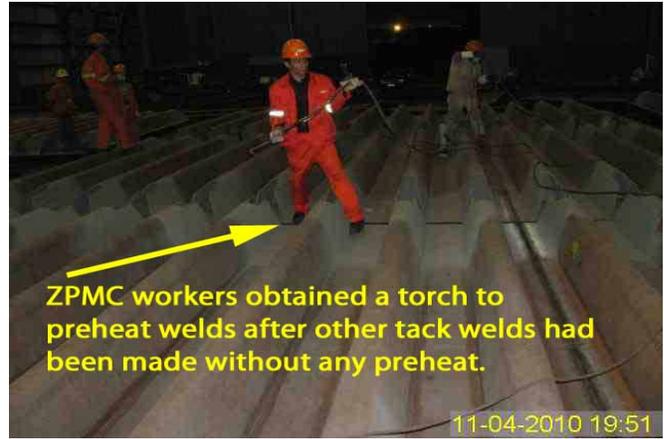
This QA Inspector observed ZPMC welder Ms. Hue Junrong, stencil 201215 used flux cored welding procedure WPS-B-T-2233-TC-U4B-F to make OBG segment 13BW weld SEG3014F-177. This weld joins bottom plate stiffeners to floor beam FB3209. This QA Inspector measured a welding current of approximately 200 amps and 27.5 volts. Ms. Hue Junrong appeared to be certified to make this weld and the base materials appeared to have been 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. Li Jun, stencil 051348 used flux cored welding procedure WPS-B-T-2233-TC-U4B-F to make OBG segment 13BW weld SEG3014F-086. This weld joins bottom plate stiffeners to a floor beam near panel point PP121.5. This QA Inspector observed ZPMC QC has recorded a welding current of 216 amps and 26.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tian Zhaoquan, stencil 045246 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair to make OBG segment 14W weld repair SEG3002A-005. This bottom plate splice weld had been ultrasonically rejected and the repairs were documented on weld repair document B-WR61350. This QA Inspector measured a welding current of approximately 120 amps. Mr. Tian Zhaoquan appeared to be certified to make this weld and the base materials were preheated with an acetylene torch prior to welding. 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 Devy +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
