

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-017297**Date Inspected:** 29-Sep-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. Liu Hua Jie

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 Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Hua Linming, stencil 044515 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-Repair to make weld repairs of visual rejections on OBG segment 10BE to 10CE cross beam side plate butt OBW10B-002. The weld appeared to have been identified as having portions of the exterior surface of the welds that had been ground to a below flush condition. This QA Inspector observed a welding current of approximately 145 amps, Mr. Hua Linming appeared to be certified to make these welds, the welding electrodes were stored in a portable rod oven which was warm to the touch and ZPMC personnel used a torch to preheat the base material prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Chen Lin Li, stencil 053871 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds FB203-013-017 through -024. These floor beam stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed a welding current of

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approximately 175 amps and the WPS lists a maximum welding current of 160 amps. This QA Inspector informed ZPMC CWI Mr. Liu Hua Jie that the welding current appears to be approximately 15 amps above the maximum listed in the WPS and Mr. Liu Hua Jie had the welder adjust the welding machine to approximately 150 amps. This QA Inspector observed that Ms. Chen Lin Li appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Liu Tong Xia, stencil 040484 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds FB201-013-009 through -016. These floor beam stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed a welding current of approximately 155 amps. This QA Inspector observed that Ms. Liu Tong Xia appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Hong Ye, stencil 040270 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds SP201-013-013 through -024. These side plate stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed a welding current of approximately 155 amps. This QA Inspector observed that Mr. Chen Hong Ye appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Sun Guang Ping, stencil 050289 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds DP202-013-017 through -024. These deck plate stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed ZPMC CWI Mr. Liu Hua Jie has recorded a welding current of 150 amps. This QA Inspector observed that Mr. Sun Guang Ping appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Huang Zhao, stencil 056200 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds DP204-013-009 through -012. These deck plate stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed ZPMC CWI Mr. Liu Hua Jie has recorded a welding current of 155 amps. This QA Inspector observed that Mr. Huang Zhao appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tang Yung, stencil 052493 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds DP204-013-005 through -008. These deck plate stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed a welding current of approximately 160 amps. This QA Inspector observed that Mr. Tang Yung appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Ye Xulan, stencil 040581 used shielded metal arc welding procedure WPS-B-P-2214-FCM-1 to make hold back welds DP201-013-009 through -016. These deck plate

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stiffener plate welds are on the inside of OBG cross beam 13. This QA Inspector observed a welding current of approximately 160 amps. This QA Inspector observed that Ms. Ye Xulan appeared to be certified to perform this welding and the electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal welding procedure WPS-345-SMAW-3G(3F)-FCM-Repair to make OBG stiffener plate welds SEG064D-074 and 083 which was identified as being misaligned on weld repair document B-CWR1941. The welds were located inside cross beam CB14 adjacent to OBG segment 10CE deck plate near panel point PP092. This QA Inspector observed Mr. Yang Yunfeng appeared to be certified to make this weld and this QA Inspector measured a welding current of approximately 170 amps. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zheng Bin, stencil 216086 used shielded metal welding procedure WPS-345-SMAW-3G(3F)-FCM-Repair to make OBG stiffener plate weld SEG064D-019 which was identified as being misaligned on weld repair document B-CWR1941. The welds were located inside cross beam CB14 adjacent to OBG segment 10CE deck plate near panel point PP092. This QA Inspector observed Mr. Wang Zheng Bin appeared to be certified to make this weld and this QA Inspector measured a welding current of approximately 165 amps. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Gao Fuchao, stencil 059773 used shielded metal arc process to tack weld temporary alignment plates on the interior side plate stiffeners inside cross beam CB14 and OBG segment 10CW. This QA Inspector observed a welding current of approximately 180 amps, the base material was preheated with a torch, Mr. Gao Fuchao appeared to be certified to perform this welding 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. Xue Fu Tai stencil 500674 used shielded metal arc process to tack weld temporary alignment plates on the interior side plate stiffeners inside cross beam CB14 and OBG segment 10CE. This QA Inspector observed a welding current of approximately 180 amps, the base material was preheated with a torch, Mr. Xue Fu Tai appeared to be certified to perform this welding 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.

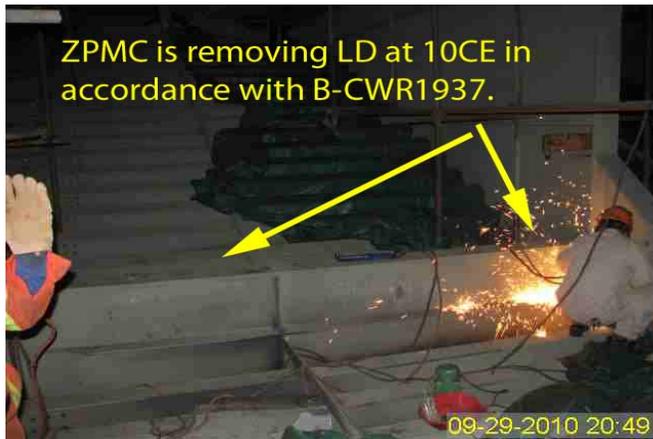
This QA Inspector observed ZPMC welder Mr. Lv Yongquan, stencil 500409 used shielded metal arc welding process to weld temporary jacking plates to OGB segments 10CE and cross beam CB14 top deck plates. This QA Inspector measured a welding current of approximately 165 amps, the base material adjacent to this weld was preheated with a torch and Mr. Lv Yongquan appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

ZPMC CWI Mr. Liu Hua Jie informed this QA Inspector that ZPMC is removing the longitudinal diaphragm at OBG segment 10CE due to misalignment and this work was approved by critical weld repair B-CWR1937. This QA Inspector observed ZPMC personnel using the carbon arc process to remove various welds. See the

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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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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