

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-017027**Date Inspected:** 23-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: Mr. An Qing Xiang

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. Lin Bo, stencil 047353 used flux cored welding procedure WPS-B-T-2132 to make weld SEG062B-029. This weld joins the longitudinal diaphragm to the bottom plate adjacent to OBG segments 10BE and 10CE on the bikepath side of the OBG. This QA Inspector observed a welding current of approximately 300 amps and 30.0 volts. This QA Inspector observed Mr. Lin Bo appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Heishan, stencil 040458 used flux cored welding procedure WPS-B-T-2132 to make weld SEG062C-029. This weld joins the longitudinal diaphragm to the bottom plate on to OBG segment 10BE on the cross beam side of the OBG. This QA Inspector observed a welding current of approximately 300 amps and 30.0 volts. This QA Inspector observed Mr. Zhang Heishan appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this

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date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Jian Wen, stencil 040378 used shielded metal arc welding procedure WPS-B-P-2214-B-U2-FCM-1 to make weld EP118-001-013. This butt weld joins stiffener plates between OBG segment 10CE edge plate on the bikepath side of the OBG. This QA Inspector observed a welding current of approximately 150 amps and Mr. Xu Jian Wen appeared to be certified to perform this welding. A torch was used to preheat the base materials and the welding electrodes were being 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. Hua Linming, stencil 044515 used shielded metal arc welding procedure WPS-B-P-2214-B-U2-FCM-1 to make weld DP702-001-040. This butt weld joins stiffener plates between OBG deck plates 10BE and 10CE on the cross beam side of the OBG. This QA Inspector observed a welding current of approximately 140 amps, Mr. Hua Linming appeared to be certified to perform this welding. A torch was used to preheat the base materials and the welding electrodes were being 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. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Jiang Peng Cheng, stencil 040562 used shielded metal arc procedure WPS-B-P-2114-FCM-1 to tack weld temporary alignment plates between the bottom plates between OBG segment 10BE and 11AE. This QA Inspector observed a welding current of approximately 160 amps, a torch was used to preheat the steel, the welding electrodes were stored in a heated oven and Mr. Jiang Peng Cheng appeared to be certified to perform this welding. 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 procedure WPS-B-P-2114-FCM-1 to tack weld temporary alignment plates on the interior surfaces of the deck plate butt weld joint between OBG segments 10CW and 11AW. This QA Inspector observed a welding current of approximately 175 amps. ZPMC CWI Mr. Zu Qing Xiang informed this QA Inspector that the WPS lists that the maximum welding current is 160 amps and that the welding current being used by Mr. Gao Fuchao is too high. Mr. Zu Qing Xiang had Mr. Gao Fuchao decrease his welding current and this QA Inspector then measured a welding current of approximately 150 amps. This QA Inspector observed that a torch was used to preheat the steel, the welding electrodes were stored in a heated oven and Mr. Gao Fuchao appeared to be certified to perform this welding. Items observed on this date did not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Yan Jun stencil 218714 used shielded metal arc procedure WPS-B-P-2114-FCM-1 to tack weld temporary alignment plates on the interior surfaces of the deck plate butt weld joint between OBG segments 10CW and 11AW. This QA Inspector observed a welding current of approximately 150 amps, the base material was preheated with a torch and Mr. Zhang Yan Jun appeared to be certified to perform this welding and the welding electrodes were being 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. Wu Jun stencil 053486 used flux cored welding procedure WPS-B-T-2132 to tack weld temporary alignment / jacking plates to the exterior surfaces of the top deck plates at

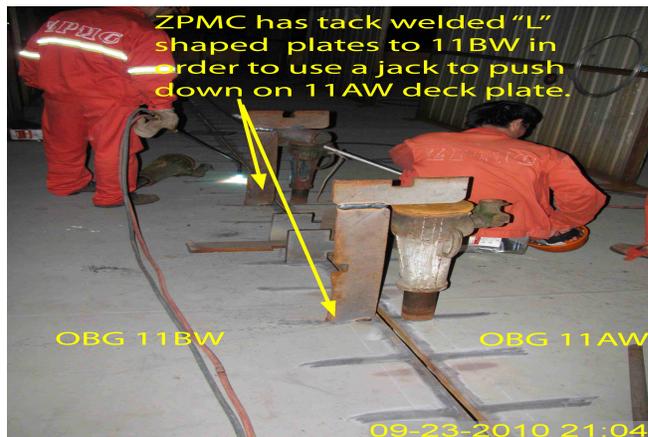
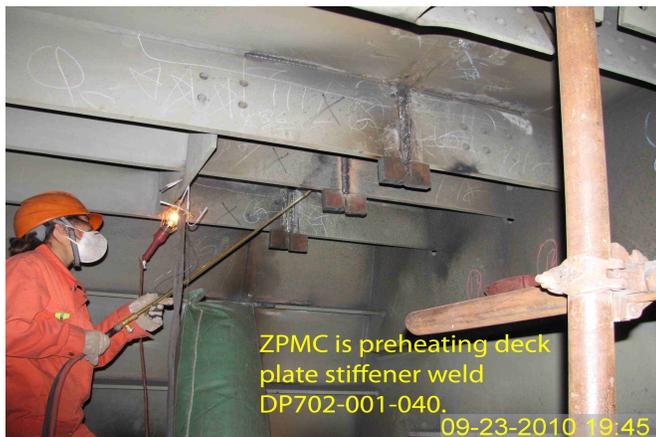
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the weld joint between OGB segments 10CW and 11AW. ZPMC workers utilized mechanical jacks between these jacking plates and the deck plate in order to align the weld joint between OGB segments 10CW and 11AW. Once the weld joint plates were aligned, welders stencil 218714 and stencil 059773 installed temporary alignment plates on the interior of the weld joint. This QA Inspector observed a welding current of approximately 155 amps, the base material was preheated with a torch and Mr. Wu Jun appeared to be certified to perform this 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. Zhang Qiu Jun stencil 057333 used shielded metal arc process to tack weld temporary alignment plates to the counterweight side plates at the weld joint between OGB segments 10CW and 11AW. This QA Inspector observed a welding current of approximately 165 amps, the base material was preheated with a torch and Mr. Zhang Qiu Jun appeared to be certified to perform this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Rui stencil 041713 used shielded metal arc process to tack weld temporary alignment plates to the cross beam side plates at the weld joint between OGB segments 10CW and 11AW. This QA Inspector observed a welding current of approximately 155 amps, the base material was preheated with a torch and Mr. Chen Rui appeared to be certified to perform this welding. 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.

Inspected By: Dawson,Paul

Quality Assurance Inspector

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Reviewed By: Carreon,Albert

QA Reviewer