

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-019442**Date Inspected:** 08-Jan-2011**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: Mr. Yu Jiao and 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.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Fang Jiahong, stencil 054016 used shielded metal arc welding procedure specification WPS-B-P-2312-TC-P4-FCM to make OBG segment 13CE longitudinal diaphragm to deck panel weld SEG3018-001-145. This QA Inspector measured a welding current of approximately 230 amps, the base materials were preheated with a torch and Mr. Fang Jiahong 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 stencil 058057 used shielded metal arc welding procedure specification WPS-B-P-2312-TC-P4-FCM to make OBG segment 13CE longitudinal diaphragm to deck panel weld SEG3018-001-137. This QA Inspector measured a welding current of approximately 230 amps and the base materials were preheated with a torch. 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

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procedure specification WPS-B-T-2233-ESAB to make OBG segment 14E weld DP3157-001-032. This QA Inspector measured a welding current of approximately 240 amps and 26.0 volts. This QA Inspector observed the base materials were preheated with electrical heaters and Mr. Chen Chuanzong 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 Ms. Gao Yuling stencil 217805 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14E welds DP3157-001-171 and 174. This QA Inspector measured a welding current of approximately 240 amps and 21 volts. This QA Inspector observed that the minimum welding voltage listed in the welding procedure specification is 23.9 volts and that Ms. Gao Yuling had a welding voltage that was approximately 2.9 volts below this minimum limit. ZPMC QC Inspector Mr. Zhong Guo Hui observed the voltage meter and he informed this QA Inspector the welding voltage was too low. Mr. Zhong Guo Hui adjusted the welding machine to a welding voltage of approximately 24 volts. Following adjustment of the welding machine current, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make a weld repair of ultrasonic rejections to OBG segment 13AE weld SEG3007L-045. ZPMC had issued weld repair document B-WR-18556 that documents the repair of this weld. This QA Inspector measured a welding current of approximately 180 amps and Mr. Wang Zhengbin appeared to be certified to make this weld. 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. Cao Xinglong, stencil 069683 used shielded metal arc welding procedure specification WPS-B-P-2114-TC-U4B-FCM-1 to perform OBG segment 14E weld SEG3019AL-008. This QA Inspector measured a welding current of approximately 160 amps and the base materials 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. Ni Lei Jiang stencil 037723 used shielded metal arc welding procedure specification WPS-B-P-2114-TC-U4B-FCM-1 to perform OBG segment 14E weld SEG3019AL-009. This QA Inspector measured a welding current of approximately 160 amps and the base materials 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. Long Youjun stencil 066416 used shielded metal arc welding procedure specification WPS-345-SMAW-1G(1F)-FCM-Repair-1 to make OBG segment 13AE weld repair SEG3007Q-311. This QA Inspector measured a welding current of approximately 160 amps and Mr. Long Youjun appeared to be certified to make this weld. This weld repair was the result of ultrasonic rejections and was documented on weld repair B-WR-19482. This QA Inspector observed Mr. Long Youjun had started to make weld repairs of this groove weld and that there were no weld run off plates at either end of the weld groove. This QA Inspector informed Mr. Long Youjun, ABF CWI Mr. Yu Jiao and ZPMC QC Inspector Mr. Zhong Guo Hui that weld run off plates should have been installed prior to welding. This QA Inspector observed Mr. Long Youjun installed weld run off plates prior to performing additional welding of the groove weld. Following installation of weld run off plates, items observed on this date appeared to generally comply with applicable

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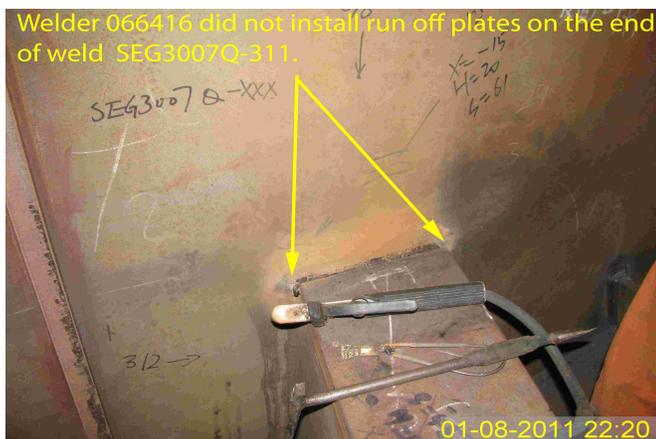
contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Zhang Xiang Rong, stencil 066763 used flux cored welding procedure specification WPS-B-T-2232-ESAB to make OBG segment 14E welds DP3159-001-150, 152 and 154. This QA Inspector observed a welding current of approximately 225 amps, 24.5 volts and Mr. Zhang Xiang Rong appeared to be certified to make this weld. This QA Inspector observed that the minimum welding current listed in the welding procedure specification is 256.0 amps and that Mr. Zhang Xiang Rong, had a welding current that was approximately 31.0 amps below this minimum limit. ZPMC QC Inspector Mr. Zhong Guo Hui informed this QA Inspector that the welding current was too low and he adjusted the welding machine to a welding current of approximately 260 amps. Following adjustment of the welding machine current, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jian Zhou, stencil 067571 used shielded metal arc welding procedure specification WPS-B-P-2214-B-U2-FCM-1 to make OBG segment 13CE welds SEG3011E-419 and 420. This QA Inspector measured a welding current of approximately 160 amps and Mr. Jian Zhou appeared to be certified to make this weld. ZPMC had used electric heaters to preheat the base material of this weld joint. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Yong Shui, stencil 067656 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make a weld repair of ultrasonic rejections to OBG segment 13BE weld SEG3009V-002. ZPMC had issued weld repair document B-WR-19705 that documents the repair of this weld. This QA Inspector measured a welding current of approximately 150 amps and Mr. Li Yong Shui 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. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make a weld repair of ultrasonic rejections to OBG segment 13AE weld SEG3007J-047. ZPMC had issued critical weld repair document B-CWR-2712 that documents the repair of this weld. This QA Inspector observed ZPMC QC Inspector Mr. Zhong Guo Hui had recorded a welding current of 195 amps. Mr. Yang Yunfeng 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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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 Devey +8615000026784, who represents the Office of Structural Materials for your project.

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