

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014872**Date Inspected:** 11-Jun-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. 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. Chen Zheng Hua, stencil is using shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair to make base metal repair welds of visual and magnetic particle rejections on the exterior surface of segment 8BE bottom plate near weld SEG046-011 as directed by critical weld repair B-CWR1414. This QA Inspector did not observe any ZPMC QC or CWI personnel near where this welding was taking place. This QA Inspector observed Mr. Chen Zheng Hua appears to be certified to make these weld repairs and the base material had been being preheated with a torch prior to welding. The welding electrodes are being stored in a portable electrode storage oven that is warm on the interior surfaces and the oven was not connected to an electrical power supply. This QA Inspector later asked CWI Mr. Liu Hua Jie if he has a copy of critical weld repair CWR-1414 available for review and Mr. Liu Hua Jie went to the Trial Assembly QC office and obtained a copy of the CWR. This QA Inspector asked Mr. Liu Hua Jie if he was aware that this critical weld repair document states: "QC and CWI should be present to witness the repair, direct and supervise all repair operations during this repair to ensure the repair is per the disposition requirements and AWS D1.5 code

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requirements". Mr. Liu Hua Jie said he will go to where this welding is taking place and he will stay there until the end of today's welding. This QA Inspector informed Mr. Liu Hua Jie that the welding electrode oven being used by Mr. Chen Zheng Hua is not connected to any power supply and he had Mr. Chen Zheng Hua connect the welding electrode oven to an energized electrical cord. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Han Ming, stencil 220066 is using flux cored welding procedure WPS-B-T-2232-TC-U4b-F to make OBG segment weld SEG049B-001 as directed by B-WR13499. This weld is at OBG segment 9AW panel point 72 longitudinal diaphragm. This longitudinal diaphragm was removed due to having excessive distortion and weld repair document B-WR13499 was issued and includes steps to remove, straighten and reinstall this longitudinal diaphragm. This QA Inspector measured a welding current of approximately 260 amps, 31.0 volts and Mr. Zhang Han Ming appears 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. Zhou Pan, stencil 220063 is using flux cored welding procedure WPS-B-T-2231 to make repair weld SEG047F-095. This weld joins OBG segment 8CW cross beam to panel point PP68 floor beam. This work is being performed in accordance with weld repair document B-WR13500 which contains steps to remove and reweld of the longitudinal diaphragm in order to correct misalignment of various plates. The welding parameters recorded by ZPMC QC Inspector Mr. Liu Hua Jie appear to comply with the WPS. This QA Inspector observed that Mr. Zhou Pan appears to be certified to make this weld. Items observed on this date appear to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Peng Jian Cheng, stencil 222396 is using flux cored welding procedure WPS-B-T-2232-TC-U4b-F to make repair weld SEG045C-007. This weld joins OBG segment 8BW cross beam to panel point PP67 floor beam. This work is being performed in accordance with weld repair document B-WR13500 which includes steps to remove and reinstall the longitudinal diaphragm in order to correct misalignment of various plates. This QA Inspector observed the base material was preheated with a torch prior to welding and observed a welding current of approximately 285 amps and 29.0 volts. This QA Inspector observed that Mr. Peng Jian Cheng appears to be certified to make this weld. Items observed on this date appear to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Zheng Hua, stencil 220067 is using flux cored welding procedure WPS-345-SMAW-4G(4F)-Repair-1 to perform OBG segment 8BW weld repair SEG045A-012. This work is being performed to resolve excessive distortion and weld repair document B-WR13500 was issued to remove straighten and reinstall various welds. This QA Inspector measured a welding current of approximately 150 amps and Mr. Chen Zheng Hua appears 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. Zhang Feng, stencil 049769 is using flux cored welding procedure WPS-345-SMAW-4G(4F)-Repair-1 to perform OBG segment 8CW weld repair SEG047B-049. This work is being performed to resolve excessive distortion and weld repair document B-WR13500 was issued to remove straighten and reinstall various welds. This QA Inspector measured a welding current of approximately 155 amps and Mr. Zhang Feng appears to be certified to make this weld. Items observed on this date appeared to generally

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comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Jiang Yong Sheng, stencil 045240 is using flux cored welding procedure WPS-B-T-2132 to make OBG segment 9AW side plate hold back welds SP668-001 through -021. This QA Inspector observed Mr. Jiang Yong Sheng using a torch to preheat the base material prior to welding. This QA Inspector measured a welding current of approximately 340 amps and 28 volts and Mr. Jiang Yong Sheng appears 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

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
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