

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-016127**Date Inspected:** 30-Jul-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 Inspectors: Mr. Liu Hua Jie, Mr. Li Yang

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

ABF issued "Inspection Notification Sheet" number 07302010-1 item #1 informing QA that on 07-30-2010 at 1930 hours ABF Inspectors would perform ultrasonic (UT) inspections of repaired weld OBW9-001. This weld was located on the edge plate between OBG segments 9AW and 9BW in the trial assembly area. ABF/Sense UT Inspectors informed this QA Inspector that they had identified and marked an ultrasonic rejection at Y=830 mm. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and confirmed one UT rejection at the same location as where ABF personnel had marked the UT rejection, and the remainder of the areas that were randomly inspected appeared to comply with project specifications. Note: These inspections were documented and tracked on "Verification Witness Request" documents. See the TL-6027 UT report for additional information concerning this inspection.

ABF issued "Inspection Notification Sheet" number 07302010-1 item #4 informing QA that on 07-30-2010 at 1900 hours ABF Inspectors would perform ultrasonic (UT) inspections of repaired weld CB201A-012-014. This

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weld was located on cross beam 12 between the west side plate and the deck plate in the trial assembly area. ABF/Sense UT Inspectors informed this QA Inspector that this weld repair is UT accepted. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and the areas that were randomly inspected appear to comply with project specifications. Note: These inspections were documented and tracked on "Verification Witness Request" documents. See the TL-6027 UT report for additional information concerning this inspection.

This QA Inspector observed ZPMC welder Mr. Wang Chang Ming, stencil 047864 was using shielded metal arc procedure WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make repairs to the butt weld that joins OBG segment 9BW and 9CW counterweight side plates. This weld was UT rejected and was tracked on weld repair document B-WR14200. This QA Inspector observed a welding current of approximately 160 amps, ZPMC appeared to have used electric heating elements to preheat the base material prior to welding and Mr. Wang Chang Ming appeared to be certified to make this weld. Later in the shift this QA Inspector observed Mr. Wang Chang Ming was using shielded metal arc procedure WPS-345-SMAW-3G(3F)-FCM-Repair-1 to make repairs to the butt weld OBW9B-006 that joins OBG segment 9BW and 9CW counterweight edge plates. This weld was UT rejected and was tracked on weld repair document B-WR14201. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Zichuan, stencil 205098 was using shielded metal arc welding procedure specification WPS-B-P-2214-B-U2-FCM-1 to complete butt welds SP770-001-008 through SP770-001-012. These welds join OBG side plate "T" stiffeners. This QA Inspector observed a welding current of approximately 140 amps, the base material had been preheated with a torch and that Mr. Xu Zichuan 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. Wang Qixiang, stencil 062812 used the shielded metal arc welding process to make tack welds 11 on various the suspender brackets that were located on the counterweight side of OBG segment 9CW. This QA Inspector observed a welding current of approximately 160 amps, the base material had been preheated with a torch and Mr. Wang Qixiang 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. Zang Yanbo, stencil 045196 is using shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair to make repair weld OBW9-003 which joins the top deck plates between OBG Segments 9AW and 9BW. This work was being performed in accordance with weld repair document B-CWR1698. This QA Inspector measured a welding current of approximately 140 amps, the base material was preheated with electric heating elements prior to welding and Mr. Zang Yanbo appeared to be certified to make this weld. This QA Inspector observed the welding electrodes are being 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. Tian Zhaoquan, stencil 045246 is using shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair to make repair weld OBW9-003 which joins the top deck plates between OBG Segments 9AW and 9BW. This work was being performed in accordance with weld repair document B-CWR1698. This QA Inspector measured a welding current of approximately 155 amps, the base

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material was preheated with electric heating elements prior to welding and Mr. Tian Zhaoquan appeared to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage container. 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
Reviewed By:	Carreon,Albert	QA Reviewer
