

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-011793**Date Inspected:** 23-Jan-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. Sun Ling Ling

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 Trial Assembly

This QA Inspector observed ZPMC welder Mr. Sun Lingling, stencil 048047 is using shielded metal welding process WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make OBG repair weld CA030-002, -004, -006 between the deck and edge plate on the exterior of segment 6CE as directed by critical weld repair document CRW-1141. This weld has multiple locations that had ultrasonic rejections. This QA Inspector observed a welding current of approximately 165 amps and Mr. Sun Lingling appears to be certified to make this weld. This QA Inspector observed ZPMC QC Inspector personnel using a 160C degree and a 230C degree temperature indicating device to verify the base material has been preheated to an acceptable temperature with an electrical heater prior to welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that feels hot. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Ren Zhi, stencil 058087 is using shielded metal welding

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process WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make OBG repair weld CA030-002, -004, -006 between the deck and edge plate on the exterior of segment 6CE as directed by critical weld repair document CRW-1141. This weld has multiple locations that had ultrasonic rejections. This QA Inspector observed a welding current of approximately 165 amps and Mr. Chen Ren Zhi appears to be certified to make this weld. This QA Inspector observed ZPMC QC Inspector Mr. Tang Ya Jun using a 160C degree and a 230C degree temperature indicating device to verify the base material has been preheated to an acceptable temperature with an electrical heater prior to welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that feels hot. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Ming Liu, stencil 044836 had recently used shielded metal welding process WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make OBG repair weld between the deck and edge plate on the interior bikepath side of segment 6AE as directed by critical weld repair document CRW-1092. This weld has multiple locations that had ultrasonic rejections. This QA Inspector observed ZPMC QC Inspector Mr. Tang Ya Jun has recorded a welding current of approximately 145 amps and Mr. Chen Ming Liu appears to be certified to make this weld. This QA Inspector observed ZPMC QC Inspector Mr. Tang Ya Jun using a 160C degree and a 230C degree temperature indicating device to verify the base material had been maintained at an acceptable temperature during this welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that feels hot. Items observed on this date appeared to generally comply with applicable contract documents.

Blast Shop #1

This QA Inspector along with Caltrans QA Inspectors Mr. Mike Hasler and Mr. George Goulet performed random visual inspections of the upper internal surfaces on OBG Segment 8CW between the weld seam where OBG segment 8BW is to be attached and panel point (PP)68 and between PP68 and PP69 as per ZPMC Notice of Inspection request number 2553. ZPMC had recently completed initial grit blasting, prior to application of paint, and the steel surfaces that were inspected were mostly free of rust oxide and other contaminants that had previously obscured portions of the plates and weld surfaces. ABF and ZPMC Inspectors performed a cursory inspection of the areas indicated above and this QA Inspector visually observed approximately 50 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections. The ends of many of the closed ribs had large quantities of grinding grit material which had not been removed prior to ABF and ZPMC Inspectors completing their inspections. The areas that require rework were marked with colored chalk and ZPMC workers were using electric grinders to remove the visually unacceptable areas and ZPMC will be performing magnetic particle inspections of the arc strike removal areas after they are removed.

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.

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