

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-015422**Date Inspected:** 25-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 Inspectors: Mr. Liu Hua Jie, Mr. Zhu Zhong Hai

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. Han Yiaofeng, stencil 054467 was using shielded metal arc welding procedure WPS-345-SMAW-1G(1F)-Repair-1 to make shielded metal arc repair weld SEG48B-046 as authorized on critical weld repair document B-CWR1618 revision #5. This weld had been ultrasonically rejected and is located at OBG segment 8CE in the trial assembly area. This QA Inspector observed Mr. Han Yiaofeng has a flashlight that he is using to illuminate this weld repair area. This QA Inspector did not observe any QC or CWI Inspectors monitoring this weld repair. This QA Inspector measured a welding current of approximately 170 amps and Mr. Han Yiaofeng appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven. This QA Inspector observed that the weld and adjacent base material is being heated with a single electric heating element that is located on the exterior side of this weld, and one side of the base material at approximately 25 mm from the edge of the weld repair appears to be at a temperature of approximately 100 degrees Celsius instead of 160 degrees Celsius as required by the CWR document. This QA Inspector informed CWI Mr. Liu Hua Jie that the base material adjacent to the weld does not

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appear to be adequately preheated, and Mr. Liu Hua Jie said the welding is now complete, but ZPMC will install an additional heating element on the side of the weld where the base material is below 160 degrees Celsius. This QA Inspector later observed an additional heating element has been installed where the base material had been below 160 degrees Celsius. Items observed on this date do not fully appear to comply with applicable contract documents. See the photographs below for additional information.

This QA Inspector observed ZPMC welder Mr. Han Yiaofeng, stencil 054467 was using shielded metal arc welding procedure WPS-345-SMAW-1G(1F)-Repair-1 to make shielded metal arc repair weld SEG45A-049 as authorized on critical weld repair document B-CWR1628 revision #3. This weld had been ultrasonically rejected and is located at OBG segment 8BW in the trial assembly area. This QA Inspector observed Mr. Han Yiaofeng has a portable light that he is using to illuminate this weld repair area and ZPMC CWI Mr. Zhu Zhong Hai is monitoring this weld repair. This QA Inspector measured a welding current of approximately 160 amps and Mr. Han Yiaofeng appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven. This QA Inspector observed that the weld and adjacent base material had been being preheated with an electric heating element that is located on the exterior side of this weld and Mr. Zhu Zhong Hai is monitoring the base material temperature. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhou Pan, stencil 220063 has used flux cored welding procedure WPS-B-T-2233T to make weld OBE9B-010. This butt weld joins the side plates between OBG segments 9BE and 9CE. This QA Inspector observed ZPMC QC has recorded a welding current of 221 amps and 25.4 volts. The base material appears to have been preheated with electric heating elements and Mr. Zhou Pan 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. Zhang Han Ming, stencil 220066 has used flux cored welding procedure WPS-B-T-2233T to make weld OBE9B-009. This butt weld joins the side plates between OBG segments 9BE and 9CE. This QA Inspector observed ZPMC QC has recorded a welding current of 216 amps and 25.0 volts. The base material appears to have been preheated with electric heating elements 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. Wang Zhong Hua, stencil 053753 has used shielded metal arc procedure WPS-B-T-3213-B-U3b to make stiffener plate splice welds DP698-001-019, -020 and -021 at the joint between OBG Segments 9BE and 9CE. This QA Inspector observed ZPMC QC has recorded a welding current of 152 amps and Mr. Wang Zhong Hua appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 16

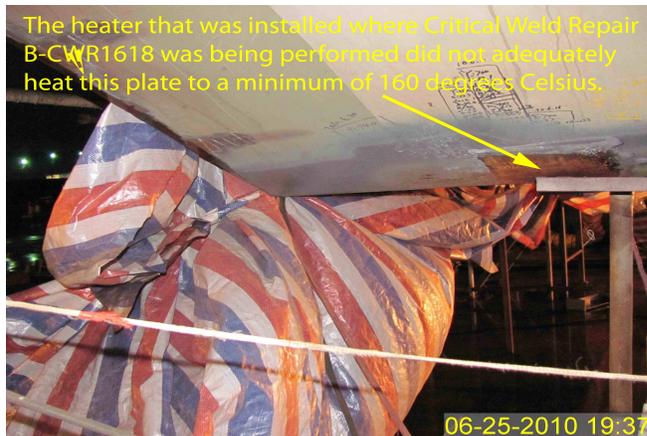
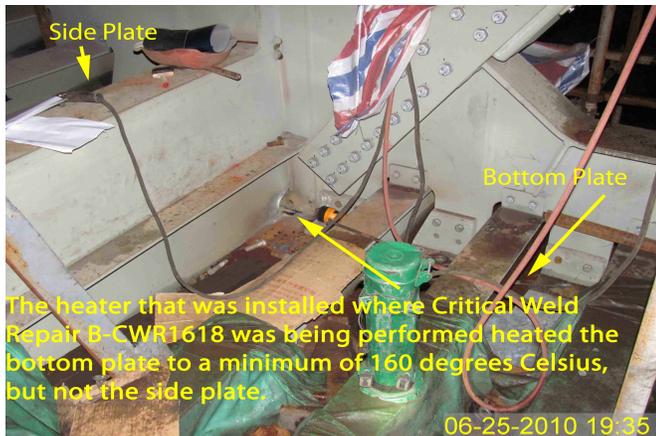
This QA Inspector observed ZPMC welder Mr. Li Jun, stencil 051348 is using shielded metal arc process to make repairs of magnetic particle and visual rejections at various locations on the inside of OBG cross beam CB9 stiffener plate hold back welds. This QA Inspector observed the base material was preheated with a torch prior to welding and Mr. Li Jun appears to be certified to make this weld. Items observed on this date appeared to

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generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Chang Ming, stencil 047864 is using shielded metal arc process to make repairs of magnetic particle and visual rejections at various locations on the inside of OBG cross beam CB10 stiffener plate hold back welds. This QA Inspector observed a welding current of approximately 170 amps, the base material was preheated with a torch prior to welding and Mr. Wang Chang Ming 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
Reviewed By: Carreon,Albert

Quality Assurance Inspector
QA Reviewer
