

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-009865**Date Inspected:** 03-Oct-2009**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:** Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Liu Xiao Zhong, Mr You Qi Guo

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:

Tower Bay 11

This QA Inspector observed ZPMC welder Mr. Xu Hua, stencil 049220 has used flux cored welding procedure WPS B-T-2231-B-U4b-F to make East tower Lift 4 skin plate A to skin plate B weld ESTL4-2B/L-59B. This QA Inspector observed that ZPMC QC Certified Welding Inspector (CWI) Mr. Liu Xiao Zhong had recorded a welding current of 315 amps and 31.3 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Hong Jan, stencil 070254 has used flux cored welding procedure WPS B-T-2231-B-U4b-F to make East tower Lift 4 skin plate B to skin plate C weld ESTL4-2B/L-61A.

This QA Inspector observed that ZPMC CWI Mr. Liu Xiao Zhong had recorded a welding current of 319 amps and 31.8 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Fuquan, stencil 070140 is using flux cored process

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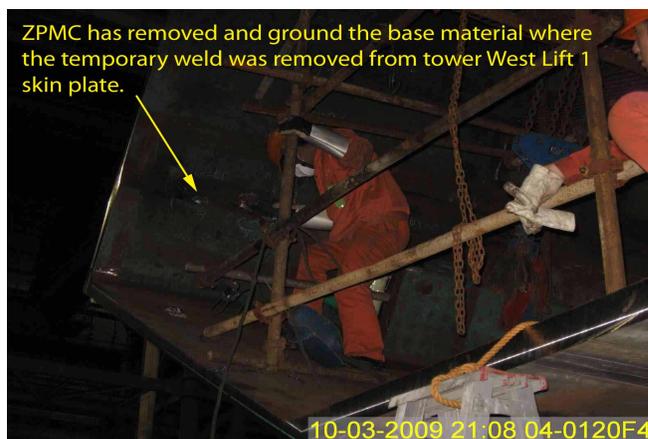
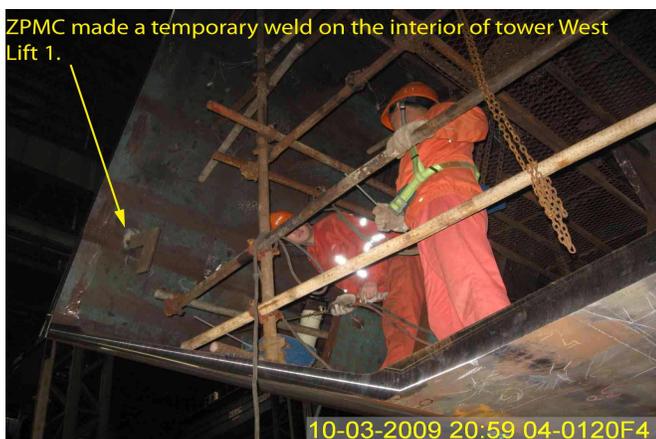
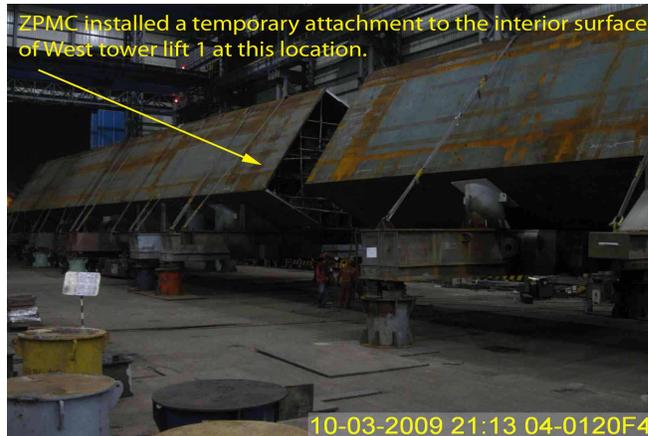
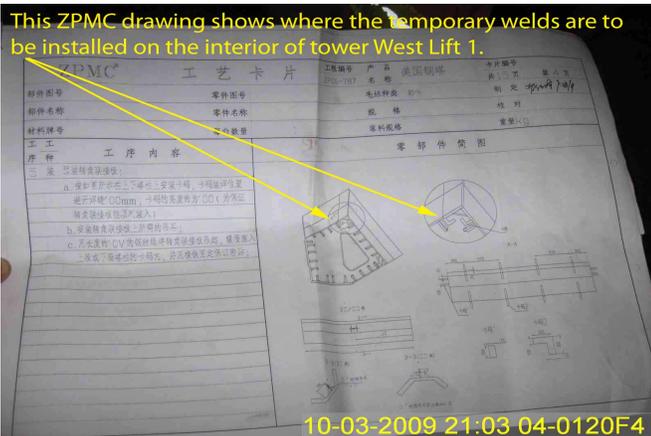
WPS-B-T-2132 to make flux cored tower stiffener plate fillet weld ED1-A149-A/C-66. The QA Inspector measured a welding current of approximately 320 amps and 28.7 volts. This QA Inspector observed the base material has been preheated with a torch prior to welding. This QA Inspector observed Mr. Liu Fuquan is 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 Shouru, stencil 042218 is using flux cored process WPS-B-T-2132 to make flux cored tower stiffener plate fillet weld ED1-A149-A/C-67. The QA Inspector measured a welding current of approximately 275 amps and 28.0 volts. This QA Inspector observed the base material has been preheated with a torch prior to welding. This QA Inspector observed Mr. Wang Shouru is 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. Zhu Xuexin, stencil 053310 is preparing to use the shielded metal arc process to tack weld temporary alignment brackets to skin plates on the interior surface of the top end of West Tower lift 1, near where West Tower lift 2 is to be attached to West Tower lift 1. This QA Inspector observed ZPMC QC representative Mr. Cao Cheng monitoring this activity. This QA Inspector asked Mr. Cao Cheng what is the minimum base material preheat temperature that is required by the tack welding procedure, and Mr. Cheng informed this QA Inspector ZPMC will obtain a minimum of 110 degrees Celsius. Mr. Cheng provided ZPMC welder Mr. Zhu Xuexin with a 110 degree temperature indicating crayon for him to use to verify the base material preheat temperature prior to welding. This QA Inspector observed Mr. Zhu Xuexin tack welding the first temporary brackets to one of the skin plates and this QA Inspector asked ZPMC QC representative Mr. Cao Cheng if the base material has been preheated to 110 degrees Celsius for a minimum of 75 mm in all directions from the point of welding and Mr. Cao Cheng told Mr. Zhu Xuexin to stop any additional welding until the base material preheat has been verified. At that time ABF representative Mr. Wang Jiang Hua arrived at the location of the welding and he climbed the ladder and took close up photographs of the temporary weld. This QA Inspector asked Mr. Cao Cheng if these temporary welds have been approved by the Engineer, and Mr. Cheng showed this QA Inspector a Chinese language drawing that shows the locations of these temporary brackets. This QA Inspector asked Mr. Cao Cheng if the base material has been ground to a bright metal surface where the temporary weld was attached to the skin plate. Mr. Cao Cheng does not appear to speak very much English and it was difficult for this QA Inspector to clearly communicate with him. Mr. Cao Cheng had the one temporary attachment weld removed and it appears that the area where the temporary attachment plate is to be welded was then ground to a bright metal condition. ABF representative Mr. Wang Jiang Hua appeared to tell Mr. Cao Cheng to stop any additional welding. This QA Inspector continued to monitor this location and no additional temporary attachments were welded during this shift. See the photographs below for additional information.

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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 Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer