

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-008641**Date Inspected:** 19-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 715**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. Chen Xi, Mr. Lin Yang, Mr. Wang Chuan Qing

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 Bay 2**

This QA Inspector observed ZPMC welder Ms. Zhang Caimei, stencil 207237 is using welding procedure specification WPS-B-T-2211-B-L2C-S-2 to make floor beam submerged arc groove weld FB056-001-079. This QA Inspector observed a welding current of approximately 590 amps and 31.5 volts. This QA Inspector observed Ms. Zhang Caimei is certified to make this weld and ZPMC QC Inspector Mr. Khan Hai Feng is monitoring this welding. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

**OBG Bay 3**

ZPMC issued "Inspection Notification Sheet" number 4009 informing QA that ZPMC has completed magnetic particle and ultrasonic inspections of the following OBG cross beam repaired welds: CB202E-014-001, CB202E-014-002, CB202E-014-003, CB202F-014-001. ZPMC QC Inspector Mr. Zhang Hai Feng and ABF

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Inspector Mr. Zhang Jian Ping both informed this QA Inspector that the four welds listed above only require ultrasonic inspections and the welds do not require magnetic particle inspections. This QA Inspector performed ultrasonic inspections of approximately 10 percent length on each of the four welds listed above and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. This QA Inspector informed ZPMC QC representative Mr. Shen Xuejun that this Inspector has been informed by ZPMC and ABF representatives that the welds listed above do not require magnetic particle inspections and after Mr. Xuejun consulted various drawings, Mr. Xuejun agreed the NDT Inspection Notification sheet was incorrect. For additional information on these inspections see the TL6027 Ultrasonic Test Report.

## Tower Bay 10

This QA Inspector observed ZPMC welder Mr. Wang Gong Zhi, stencil 050041 is using flux cored welding process WPS B-T-4333-TC-P4-F to make north tower lift 2 weld NSD1-TL8-F/C-5. Prior to welding this QA Inspector visually inspected the weld joint fitup and observed that the weld joint appears to comply with the welding procedure specifications, and that the base material had been preheated with electrical heating elements as required by the welding procedure. This QA Inspector observed Mr. Wang Gong Zhi having a welding current of approximately 230 amps and 22.0 volts. This QA Inspector observed ZPMC QC Inspector Mr. Shi Jing Wei is monitoring this welding and Mr. Wang Gong Zhi is qualified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Bu Xue Zhen, stencil 052075 is using welding procedure WPS-345-FCAW-3G/3F-Repair to make a shielded metal arc buttering weld to add weld material to the bottom end of North Tower Lift 1. ZPMC QC Inspector Mr. Li Peng Fei showed this QA Inspector that this welding is to increase the overall length of the tower assembly as directed by weld repair report TCWR-055 which appears to have been approved by Caltrans Engineering. This QA Inspector observed Mr. Li Peng Fei has recorded Ms. Bu Xue Zhen to have a welding current of 203 amps and 25.2 volts. This Inspector observed that Ms. Bu Xue Zhen is qualified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Xiuping, stencil 057244 is using welding procedure WPS-345-FCAW-3G/3F-Repair to make a shielded metal arc buttering weld to add weld material to the bottom end of North Tower Lift 1. ZPMC QC Inspector Mr. Li Peng Fei showed this QA Inspector that this welding is to increase the overall length of the tower assembly as directed by weld repair report TCWR-055 which appears to have been approved by Caltrans Engineering. This QA Inspector observed Mr. Li Peng Fei has recorded Mr. Xu Xiuping to have a welding current of 199 amps and 25.5 volts. This Inspector observed that Mr. Xu Xiuping is qualified 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 Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

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| <b>Inspected By:</b> | Dawson,Paul | Quality Assurance Inspector |
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| <b>Reviewed By:</b> | Carreon,Albert | QA Reviewer |
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