

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-008805**Date Inspected:** 18-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:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Shen Fu You,, Mr Lu Geng Wei, Mr. Zhu Tian Shu

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 1**

This QA Inspector observed ZPMC welder Mr. Cao Qi stencil 216575, using flux cored welding procedure WPS-B-T-2231-B-U2-F-1 to make OBG cross beam weld CB202E-015-003. This QA Inspector measured Mr. Li Ming Qian to have a welding current of 275 amps and 28.4 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Ming Qian stencil 054460, using flux cored welding procedure WPS-B-T-2132-2 to make OBG cross beam weld CB201G-014-148. This QA Inspector observed ZPMC CWI/QC Inspector Mr. Tian Lei has recorded a welding current of 277 amps and 28.6 volts. Items observed on this date appeared to generally comply with applicable contract documents.

**OBG Bay 11**

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ZPMC issued "Inspection Notification Sheet" number 3994 informing QA that ZPMC has completed ultrasonic inspections of the following tower spare strut welds: SDI1-A6002-16-1, SDI1-A6002-16-2, SDI1-A6002-16-3, SDI1-A6002-16-4, SDI1-A6002-17-1, SDI1-A6002-17-2, SDI1-A6002-17-3, SDI1-A6002-17-4, SDI1-A6002-18-1 and SDI1-A6002-18-2. This QA Inspector observed none of these welds appear to have any markings or other identification that the welds listed above have been ultrasonically accepted by ZPMC inspection personnel. This QA Inspector asked ABF Inspector Mr. Li Shi You if these welds have been UT accepted by ZPMC Inspection personnel. Mr. Li Shi You asked ZPMC NDE Inspector Mr. Liu Wan Ning if these welds have been ultrasonically accepted by ZPMC personnel, and Mr. Liu Wan Ning said that the welds had been ultrasonically inspected last week when all of these welds had been on a single plate, and now the plate has been cut into smaller pieces and he cannot locate any ZPMC marking that shows when the welds are ultrasonically acceptable, or who had performed these ultrasonic inspections. Mr. Liu Wan Ning said he does not have a copy of the ultrasonic inspection report and he cannot write the date of the inspections on the part until he sees this report. Mr. Liu Wan Ning said he will obtain a copy of the UT inspection report tomorrow and at that time he will write "UT Accept" on the welds at that time. This QA Inspector performed ultrasonic inspections of approximately 10 percent length on each of the welds listed above and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. This QA Inspector did not write a triangle or other indications that the welds had been inspected for any of these welds, pending ZPMC confirming the welds had been UT accepted by ZPMC personnel. For additional information on these inspections see the TL6027 Ultrasonic Test Report.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Bian Henggui, stencil 051359 is using shielded metal arc process WPS-B-P-2212-TC-U4b-FCM-1 to make shielded metal arc weld SEG052C-055 and -056 at segment 9BE panel point PP75. This QA Inspector measured a welding current of approximately 185 amps. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is warm to the touch and Mr. Bian Henggui 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 Jinjin, stencil 043661 is using shielded metal arc process WPS-B-P-2114-FCM-1 to make shielded metal arc weld SEG052C-055 and -056 at segment 9BE panel point PP75. This QA Inspector observed that ZPMC QC Inspector Mr. Tian Lei has recorded a welding current of 172 amps. This QA Inspector observed that Mr. Wang Jinjin 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. Yuan Wensong, stencil 055491 is using welding procedure WPS-B-P-2231-B-U2-F to make flux cored weld SEG056-011 at PP80. This QA Inspector observed that ZPMC QC Inspector Mr. Tian Lei has recorded a welding current of 340 amps and 31.7 volts. This QA Inspector observed that Mr. Yuan Wensong 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. Dan Deyin, stencil 044795 is using welding procedure WPS-B-P-2231-B-U2-F to make flux cored weld SEG056-005 at PP80. This QA Inspector observed that ZPMC QC Inspector Mr. Tian Lei has recorded a welding current of 340 amps and 31.7 volts. This QA Inspector observed that Mr. Dan Deyin is certified to make this weld. Items observed on this date appeared to generally

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comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Xu Pei Pei, stencil 050323 is using the submerged arc welding process WPS-B-T-2221-B-U2C-S-2 to make groove weld SEG049-004 This QA Inspector observed a welding current of approximately 595 amps and 32.5 volts and these readings are similar to what ZPMC QC Inspector Mr. Liu Wan Ning has recorded. This QA Inspector observed Ms. Xu Pei Pei is certified 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 Mr. Cheng Haixia, stencil 045209 is using flux cored welding procedure WPS B-T-2231-TC-U4b-F to make OBG corner assembly weld CA055-003.

This QA Inspector observed that ZPMC QC Inspector Mr. Tian Lei has recorded a welding current of 287 amps and 29.5 volts. This QA Inspector observed that Mr. Cheng Haixia 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 Ms. Ren Linsheng, stencil 707465, is using welding procedure WPS-B-T-2231-TC-U5-F to make OBG corner assembly weld CA055-003. This QA Inspector observed a welding current of approximately 330 amps, 30.8 volts and Ms. Ren Linsheng is 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 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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