

**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-008370**Date Inspected:** 02-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**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. Dau Zhiquan and Mr. Du Zhi Qun

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 10

ZPMC issued "Inspection Notification Sheet" number 3842 informing QA that ZPMC has completed visual and magnetic particle inspections of lift 1 north tower corner skin plate A to skin plate B exterior surface of welds NSD1-A112B/H-113B and NSD1-A166E/J-52B. ZPMC Inspectors appear to have previously accepted both of these welds. This QA Inspector performed random visual inspections of the entire length of these two welds and magnetic particle inspections of approximately 10 percent length of each of the welds listed above. Items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on these inspections see the TL6028 Magnetic Particle Test Report.

This QA Inspector observed ZPMC welder Ms. Huang Zhao, stencil 056200 is using welding procedure WPS-B-P-3312-TC-P5 to make a shielded metal arc fillet weld on various location of the root pass welds on north tower lift 2 stiffeners to skin plate NSD1-FCSA4-1C/C. The QA Inspector observed a welding current of approximately 180 amps. This QA Inspector observed that ZPMC personnel are using hand held torches to

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preheat the base material temperature adjacent to where the welds were to be deposited. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Yudi, stencil 040268 is using welding procedure WPS-B-P-3312-TC-P5 to make a shielded metal arc fillet weld on various location of the root pass welds on north tower lift 2 stiffeners to skin plate NSD1-FCSA4-1C/C. The QA Inspector observed a welding current of approximately 180 amps. This QA Inspector observed that ZPMC personnel are using hand held torches to preheat the base material temperature adjacent to where the welds were to be deposited. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Sun Daoqing, stencil 040269 is using shielded metal arc process WPS-B-P-3312-TC-P5 to make north tower lift 4 weld NSD1-FASA1-1E/E-66B. This QA Inspector observed a welding current of approximately 280 amps and this welding is being monitored by ZPMC QC Inspector Mr. Dong Zhi Bing. This QA Inspector observed that Mr. Sun Daoqing is qualified to make this weld, the welding electrodes are being stored in a heated portable electrode storage oven and that the base material has been preheated with an electric heating element. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Xioshui, stencil 040489 is using welding procedure specification WPS-B-T-2221-B-L2B-S-2 to make submerged arc groove weld NSTL3-3B/K-85B. This QA Inspector observed that ZPMC Quality Control Inspector Mr. Wang Hao monitoring this welding and the QA Inspector observed a welding current of approximately 680 amps and 30.8 volts. This QA Inspector observed Mr. Xu Xioshui is qualified to make this weld and that the base material appears to have been preheated with an electric heating element. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Shouqin, stencil 020750 is using welding procedure specification WPS-B-T-2221-B-L2B-S-2 to make submerged arc groove weld NSTL3-3B/K-85B. This QA Inspector observed that ZPMC Quality Control Inspector Mr. Wang Hao monitoring this welding and the QA Inspector observed a welding current of approximately 680 amps and 32.0 volts. This QA Inspector observed Ms. Wang Shouqin is qualified to make this weld and that the base material appears to have been preheated with an electric heating element. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Chan Hongxia, stencil 060460 is using welding procedure specification WPS-B-T-2221-B-L2B-S-2 to make submerged arc groove weld NSTL3-3B/K-85B. The QA Inspector observed ZPMC Quality Control Inspector Mr. Wang Hao monitoring this welding and the QA Inspector observed a welding current of approximately 695 amps and 30.5 volts. This QA Inspector observed Ms. Chan Hongxia is qualified to make this weld and that the base material appears to have been preheated with an electric heating element. Items observed on this date appeared to generally comply with applicable contract documents.

### **Summary of Conversations:**

See above.

### **Comments**

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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
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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