

**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-014876**Date Inspected:** 16-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. Zhen Cheng, Mr. Tian Lei

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**

ABF issued "Inspection Notification Sheet" number 06162010-2 item #1 informing QA that on 06-16-2010 at 18:00 hours ABF Inspectors will be performing ultrasonic (UT) inspections of hold back repair weld SEG048B-029 which is on the counterweight side of OBG segment 8CE near where OBG segment 9AE is to be attached. This weld is located in the trial assembly area. ABF/Sense UT Inspectors informed this QA Inspector that the weld repair area is accepted. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and the weld repair appears to comply with project specifications. Note: These inspections are being documented and tracked on "Verification Witness Request" documents. See the TL-6027 UT report for additional information concerning this inspection.

This QA Inspector observed no ZPMC personnel performing welding of OBG components in at the OBG segment trial assembly area.

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## WELDING INSPECTION REPORT

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### OBG Bay 2

This QA Inspector observed ZPMC welder Ms. Cheng Haixia, stencil 045209 is using flux cored welding procedure WPS-B-T-2132-3 to make floor beam weld FB3184-001-032. This QA Inspector observed ZPMC QC Inspector Mr. Zhong Yong Gang has recorded a welding current of 314 amps and 30.3 volts. This QA Inspector observed Ms. Cheng Haixia appears to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Chaili, stencil 045203 is using flux cored welding procedure WPS-B-T-2132-3 to make floor beam weld FB3184-001-033. This QA Inspector observed ZPMC QC Inspector Mr. Zhong Yong Gang has recorded a welding current of 316 amps and 30.6 volts. This QA Inspector observed Ms. Wang Chaili appears to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG Bay 3

This QA Inspector observed ZPMC welder Mr. Tu Zhi Wu, stencil 206386 is using flux cored welding procedure WPS-B-T-2132-3 to make OBG floor beam weld FB3110-001-012. This QA Inspector observed ZPMC QC Inspector Mr. Zhong Yong Gang has recorded a welding current of 309 amps and 30.5 volts. This QA Inspector observed a welding current of approximately 320 amps. This QA Inspector observed Mr. Tu Zhi Wu appears to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Gao Yuling, stencil 217805 is using flux cored welding procedure WPS-B-T-2132-3 to make OBG floor beam weld FB3110-001-013. This QA Inspector observed ZPMC QC Inspector Mr. Zhong Yong Gang has recorded a welding current of 312 amps and 31.0 volts. This QA Inspector observed a welding current of approximately 320 amps. This QA Inspector observed Ms. Gao Yuling appears to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG Bay 19

This QA Inspector observed ZPMC welder Mr. Xu Dalai, stencil 500909 is using welding procedure WPS-B-T-2134 to make flux cored overhead OBG bikepath fillet weld BK006A8-001. The QA Inspector observed ZPMC Quality Control Certified Welding Inspector Mr. Zhen Cheng had recorded Mr. Xu Dalai to have a welding current of 220 amps and 26.2 volts. This QA Inspector measured a welding current of approximately 260 amps and 28 volts. Welding procedure WPS-B-T-2134 lists that the maximum welding current is 241.6 and the maximum voltage is 28.3 volts and Mr. Xu Dalai appears to have a welding current that is approximately 20 amps above the maximum listed in the WPS. This QA Inspector asked ZPMC Certified Welding Inspector Mr. Zhen Cheng to confirm the welding current and Mr. Zhen Cheng attempted to use his welding meter to measure the welding current and Mr. Zhen Cheng informed this QA Inspector that he adjusted the welding current to 230 amps, but he was not able to measure the welding voltage because his welding meter was not working properly. Items observed by the QA Inspector do not appear to fully comply with project specifications.

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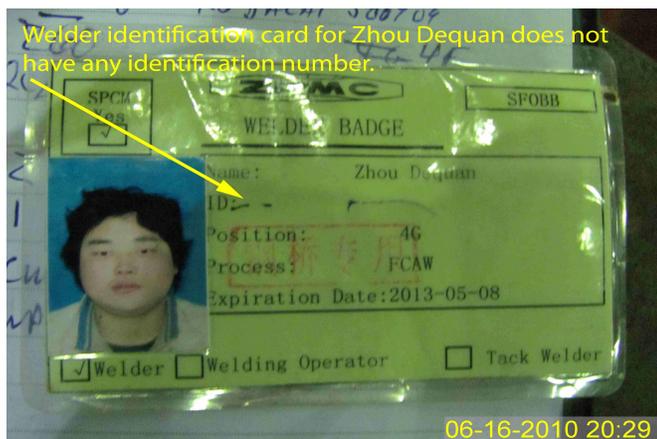
## WELDING INSPECTION REPORT

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This QA Inspector observed ZPMC welder Mr. Zhou Dequan is using welding procedure WPS-B-T-2134 to make flux cored overhead OBG bikepath fillet weld BK006A5-001. This QA Inspector observed Mr. Zhou Dequan's ZPMC welder identification card identifies his name and lists that he is certified to perform this weld, but the identification card does not have any welder identification stencil number on either side of the card. ZPMC Certified Welding Inspector Mr. Zhen Cheng informed this QA Inspector that Mr. Zhou Dequan is certified to make this weld and he does not know why there is no identification number assigned to this welder. This QA Inspector observed ZPMC Certified Welding Inspector Mr. Zhen Cheng had recorded Mr. Zhou Dequan to have a welding current of 220 amps and 24.2 volts. This QA Inspector measured a welding current of approximately 260 amps and 29 volts. Welding procedure WPS-B-T-2134 lists that the maximum welding current is 241.6 and the maximum voltage is 28.3 volts and Mr. Xu Dalai appears to have a welding current that is approximately 20 amps and 1 volt above the maximum listed in the WPS. This QA Inspector asked ZPMC Certified Welding Inspector Mr. Zhen Cheng to confirm the welding current and Mr. Zhen Cheng used his welding meter to measure the welding current and Mr. Zhen Cheng informed this QA Inspector that he adjusted the welding current to 235 amps, but he was not able to measure the welding voltage because his welding meter was not working properly. Mr. Zhen Cheng informed this QA Inspector that tomorrow he will obtain and use a different welding measurement meter for monitoring the welders in OBG bay 19. On May 17, 2010, dayshift ZPMC personnel later determined that ZPMC welder Mr. Zhou Dequan has a welder identification number of 062905. See the photograph below for additional information. Items observed by the QA Inspector do not appear to fully comply with project specifications.



### 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.

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**Inspected By:** Dawson, Paul

Quality Assurance Inspector

**Reviewed By:** Carreon, Albert

QA Reviewer

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