

**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-013637**Date Inspected:** 16-Apr-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. Zhou Cheng, Mr. Liu Hua Jie

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 9DE located in yard near the front of Bay 16

This QA Inspector observed ZPMC welder Mr. Wang Jinjiu, stencil 043661, is using shielded metal arc procedure WPS-B-P-4113-2 to make OBG segment weld SEG056-011. This QA Inspector observed Mr. Wang Jinjiu has a welding current of 170 amps and the base material appears to have been preheated with a torch prior to commencement of welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container and it appears to be connected to the welding power supply cable. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Kua Wenshan, stencil 054013 is using shielded metal welding process to make OBG segment weld SEG056D-027 on the counterweight side of OBG 9CW. ZPMC QC Mr. Way Wei Ming informed this QA Inspector that that he had previously measured a welding current of 167 amps. This QA Inspector observed a welding current of 175 amps, the base material appears to have been preheated with a torch prior to commencement of welding and Mr. Kua Wenshan appears to be certified to make this weld. Items

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observed by this QA Inspector appear to comply with project specifications.

This QA Inspector observed ZPMC welder Mr. Zhu Mingsong, stencil 204339 is using shielded metal welding process to make OBG segment weld SEG056D-064 on the counterweight side of OBG 9CW. This QA Inspector observed a welding current of 160 amps, the base material appears to have been preheated with a torch prior to commencement of welding and Zhu Mingsong appears to be certified to make this weld. Items observed by this QA Inspector appear to comply with project specifications.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Han Hai Wei, stencil 204330 is using the shielded metal arc welding process to make a 3F (vertical) tack weld between segment 11DW panel point 105 deck panel diaphragms.

This QA Inspector observed Mr. Han Hai Wei has a ZPMC welder certification card which states that he is certified to weld in the 1 F/G and 2F/G positions and it does not state that Mr. Han Hai Wei is certified to weld in the 3F position. This QA Inspector informed ZPMC CWI Mr. Geng Wei and ABF representative Mr. Yang Chao that Mr. Han Hai Wei does not appear to be certified to make this weld and Mr. Geng Wei and Mr. Yang Chao informed this QA Inspector that this weld will be removed and the base material where this tack weld had been deposited will be magnetic particle inspected prior to any additional welding. See the photograph below for additional information. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Xianyou, stencil 047866 is using flux cored welding procedure WPS-345-FCAW-3G(3F)-Repair to make OBG weld repair SEG3006F-017 This weld is located in OBG segment 12CW and is being documented on weld repair document that has not had a repair document number assigned. This QA Inspector observed a welding current of 210 amps and 25.9 volts and the base material appears to have been being preheated by a torch prior to welding. This QA Inspector observed that Mr. Li Xianyou appears to be 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. Hue Junrong, stencil 201215 is using flux cored welding procedure WPS-345-FCAW-3G(3F)-Repair to make OBG weld repair SEG3006F-017 This weld is located in OBG segment 12CW and is being documented on weld repair document that has not had a repair document number assigned. This QA Inspector observed that CWI Mr. Liu Hua Jie has recorded a welding current of 269 amps and 26.0 volts and the base material appears to have been being preheated by a torch prior to welding. This QA Inspector observed that Ms. Hue Junrong appears to be 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. Hong Liang, stencil 200113 is using shielded metal arc process WPS-B-T-4113-2 to make shielded metal arc weld repair CA090-004 in accordance with weld repair document B-CWR1366. This weld joins edge plate EP173 to deck plate DP720A between panel point 105.5 and 106, segment 11DE. This QA Inspector observed that Mr. Hong Liang has a welding current of approximately 170 amps, the base material appears to have been preheated with a torch and Mr. Hong Liang appears to be certified to make this weld. ZPMC CWI Mr. Geng Wei and ABF representative Mr. Yang Chao showed this QA Inspector weld repair document BCWR1366 which states that this base material is to be preheated to a minimum of 160

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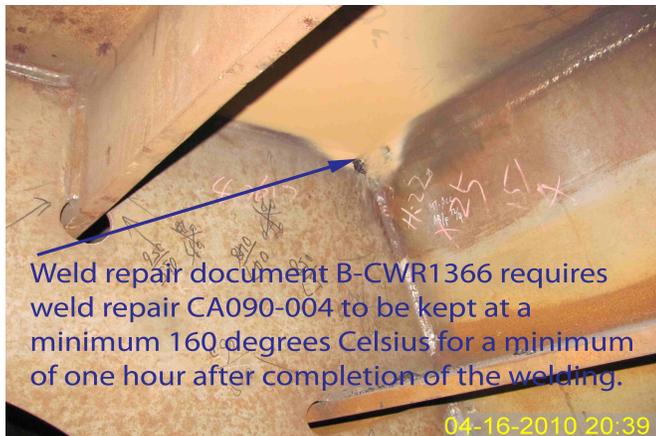
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degrees Celsius prior to welding and the weld repair area is to be maintained at a minimum 160 degrees Celsius for a minimum of one hour after completion of the welding. When Mr. Hong Liang completed this weld repair this QA Inspector asked ZPMC CWI Mr. Geng Wei if ZPMC was maintaining the weld material and base material temperature at a minimum 160 degrees Celsius as required by weld repair document B-CWR1366. Mr. Geng Wei informed this QA Inspector that he had not realized this repair document requires the weld to be maintained to a minimum 160 degrees Celsius and that he will immediately have a heating element installed on the exterior side of the plate where this weld had been made. See the photograph below for additional information. Items observed on this date do not appear to fully 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 Eric Tsang phone: 150-0042-2372 , 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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