

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017308**Date Inspected:** 12-Oct-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: ZPMC: Yu Jiao; ABF: Mr. Shang Qing Quan, Mr. Yu Jiao

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 14

At around midnight ZPMC workers used an overhead crane to position OBG segment 13AE floor beam assembly FB3123B in position at panel point PP118.65. This QA Inspector observed ZPMC using three mechanical jacks to push the bottom of plate FB3123B towards a vertical position. The bottom of this floor beam scraped the bottom plate and ZPMC used a long extension bar to push the jacks in an attempt to align the floor beam. At around 0300 hours ZPMC placed wood blocks between the 5 ton weight and the floor beam. The 5 ton weight was attached to an overhead crane and the weight was used as a "hammer" to impact the bottom of FB3123B in an attempt to move the floor beam into a vertical position. This QA Inspector observed ZPMC performing this technique on the north end of FB3123B and ZPMC positioned the weight and wooden blocks on the south side, then the workers said they were going to stop working.

This QA Inspector observed ZPMC welder Mr. Xi Xianyou, stencil 047866 used shielded metal arc process to add additional weld material to two temporary lifting eyes on 14W bottom plate prior to the plate being lifted from the

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transport vehicle at the back of bay 14. Due to recent rain, the top surface of the plate was wet and the welder did not appear to have any torch or other means of drying the steel prior to welding. This welder was only certified to perform FCAW welding and he is not certified to perform shielded metal arc welding. ABF representative Mr. Kelvin Cheung was contacted and he discussed this issue with the foreman. Mr. Kelvin Cheung said the lifting eyes were located in an area that will be trimmed off at a later time. This QA Inspector observed part of the lifting eyes extend in between stiffener plates. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Quin Quan, stencil 044774 used flux cored welding procedure WPS-B-T-2132 to make stiffener plate welds AP3006-001-057 and -058. This QA Inspector measured a welding current of approximately 315 amps, 30.0 volts Mr. Zhang Quin Quan appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure WPS-B-T-2132 to make stiffener plate welds AP3002-001-063 and -064. This QA Inspector measured a welding current of approximately 285 amps, 31.5 volts and Mr. Chen Chuanzong appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zheng Bin, stencil 216086 used shielded metal arc welding procedure specification WPS-B-P-2212-TC-U5B-FCM to make OBG segment 13AE weld SEG3007H-124. This QA Inspector observed a welding current of approximately 245 amps, the base materials appear to have been preheated with electric heaters and Mr. Wang Zheng Bin appeared 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 used shielded metal arc welding procedure specification WPS-B-P-2212-TC-U5B-FCM to make OBG segment 13AE weld SEG3007J-045. This QA Inspector observed a welding current of approximately 240 amps, the base materials appear to have been preheated with electric heaters and Mr. Hong Liang appeared 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. He Han Qiang, stencil 201981 used flux cored welding procedure WPS-B-T-2231-B-U3-F to make tack welds between OBG segment plates AP3022 and AP3023. ABF CWI Mr. Yu Jiao informed this QA Inspector that he does not know the weld number of this joint. This QA Inspector observed Mr. He Han Qiang appeared to be certified to make this weld and the base materials were heated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Lanying, stencil 045265 used submerged arc welding procedure WPS-B-T-2221-B-L2C-S-2 to make OBG segment 14W weld SEG3020AQ-029. This QA Inspector observed ABF CWI Mr. Yu Jiao has recorded a welding current of 628 amps and 30.2 volts. Ms. Wang Lanying appeared to be certified to make this weld, and electrical heaters had been used to preheat the base material. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

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This QA Inspector observed ZPMC welder Mr. Xi Xianyou, stencil 047866 used flux cored welding procedure WPS-B-T-2221-B-L2C-S-2 to make OBG segment 13W weld SEG3013A-004. This QA Inspector observed a welding current of approximately 280 amps and 31.0 volts. This QA Inspector observed Mr. Xi Xianyou appeared to be certified to make this weld and the base material appears to have been preheated with electric heaters. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. He Hanbi, stencil 202122 used flux cored welding procedure WPS-B-T-2221-B-L2C-S-2 to make OBG segment 13W weld SEG3013A-006. This QA Inspector observed a welding current of approximately 300 amps and 30.7 volts. This QA Inspector observed Mr. He Hanbi appeared to be certified to make this weld and the base material appears to have been preheated with electric heaters. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Zou Dianqin, stencil 250050 used submerged arc welding procedure WPS-B-T-2221-B-L2C-S-2 to make OBG segment 13CW weld SA3232-003. This QA Inspector observed ABF CWI Mr. Yu Jiao has recorded a welding current of 628 amps and 29.2 volts. This QA Inspector measured a welding current of approximately 590 amps and 33.0 volts. Ms. Zou Dianqin appeared to be certified to make this weld, and electrical heaters had been used to preheat the base material. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.



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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.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
