

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-016108**Date Inspected:** 27-Jul-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 Inspector: 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 Trial Assembly

This QA Inspector observed ZPMC welder Mr. Wang Zhong Hua, stencil 053753 used shielded metal arc procedure WPS-345-SMAW-3G(3F)-FCM-Repair-1 to make repairs to abut weld OBE9C-009 that joins side plates between OBG Segments 9DE and 9CE. This repair was authorized by critical weld repair document B-CWR1736. This QA Inspector observed a welding current of approximately 170 amps, ZPMC appeared to have used electric heating elements to preheat the base material prior to welding and Mr. Wang Zhong Hua 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. Zhang Han Ming, stencil 220066 used flux cored welding procedure WPS-B-T-2231-TC-U4B-F to make OBG bikepath cantilever beam weld BK001-PP85-001. This QA Inspector observed the base material appears to have been preheated with a torch prior to welding and Mr. Zhang Han Ming appeared to be certified to make these welds. This QA Inspector observed a welding current of

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approximately 310 amps and 35.0 volts. This QA Inspector asked ZPMC CWI Mr. Liu Hua Jie if this welding voltage was in accordance with the welding procedure specification and Mr. Liu Hua Jie informed this QA Inspector the welding voltage was too high. Mr. Liu Hua Jie said he had previously measured a welding voltage that was approximately 31 volts and that he will adjust the welding machine. This QA Inspector observed the welding machine was adjusted to approximately 31 volts. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhou Pan, stencil 220063 used flux cored welding procedure WPS-B-P-2212 to make weld SSD12A-082-180 between OBG segment 9DW and cross beam CB12 stiffener plates. This QA Inspector measured a welding current of approximately 260 amps, 27.0 volts and Mr. Zhou Pan appeared to be certified to make this weld. This QA Inspector observed ZPMC personnel used a torch to preheat the base material prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Guimin stencil 220069 used flux cored welding procedure WPS-B-P-2212 to make weld SSD16-082-169 between OBG segment 9DE and cross beam CB12 stiffener plates. This QA Inspector measured a welding current of approximately 270 amps, 28.0 volts and Mr. Li Guimin appeared to be certified to make this weld. This QA Inspector observed ZPMC personnel used a torch to preheat the base material prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Zheng Hua, stencil 220067 used flux cored welding procedure WPS-B-P-2212 to make weld SSD16-082-178 between OBG segment 9DE and cross beam CB12 stiffener plates. This QA Inspector measured a welding current of approximately 300 amps, 30.0 volts and Mr. Chen Zheng Hua appeared to be certified to make this weld. This QA Inspector observed ZPMC personnel used a torch to preheat the base material prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xin Meng, stencil 053742 used flux cored welding procedure WPS-B-P-2212 to make weld FB-020-012-005. This stiffener plate hold back weld was located where OBG segments 9DW joins cross beam 12. This QA Inspector measured a welding current of approximately 245 amps, 28.0 volts, Mr. Xin Meng appeared to be certified to make this weld and the base material appeared to have been heated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Yanwu, stencil 218712 used shielded metal arc process to perform tack welding of temporary plates to maintain alignment of OBG side plate butt weld joint between segments 9DW and 9EW on the counterweight side. This QA Inspector observed Mr. Wang Yanwu appeared to be certified to make these welds and a torch had been used to preheat the base material prior to welding. Items observed on this date appeared to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ma Gui Jun, stencil 041696 used shielded metal arc process to perform tack welding of temporary plates to maintain alignment of OBG deck plate butt weld joint between segments 9DW and 9EW on the cross beam side. This QA Inspector observed Mr. Ma Gui Jun appeared to be

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certified to make these welds and a torch had been used to preheat the base material prior to welding. Items observed on this date appeared to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Gong Rui Qiang, stencil 218707 used shielded metal arc process to perform tack welding of temporary plates to maintain alignment of OBG side plate butt weld joint between segments 9DW and 9EW on the counterweight side. This QA Inspector observed Mr. Gong Rui Qiang appeared to be certified to make these welds and a torch had been used to preheat the base material prior to welding. Items observed on this date appeared to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhu Fachao, stencil 054217 used shielded metal arc process to perform tack welding of temporary plates to maintain alignment of OBG side plate butt weld joint between segments 9DW and 9EW on the cross beam side. This QA Inspector observed Mr. Zhu Fachao appeared to be certified to make these welds and a torch had been used to preheat the base material prior to welding. See the photograph below for additional information. Items observed on this date appeared to 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.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer
