

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-015827**Date Inspected:** 23-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 Inspectors: Mr. Li Yang, Mr. Xu Tao

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 13 and 14

This QA Inspector observed two ZPMC welders performing welding of OBG segment 13 mockup components and no ZPMC personnel performing welding of OBG components in bays 13 and 14.

OBG Bay 16

This QA Inspector observed ZPMC welder Mr. Bi Xiaofei, stencil 045204 was using shielded metal arc procedure WPS-B-P-2113-FCM-1 to make longitudinal diaphragm tack weld LD3035-001-066 and -067. This QA Inspector measured a welding current of approximately 170 amps and Mr. Bi Xiaofei appears to be certified to make this weld. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is warm to the touch and the base material was preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC workers performed heat straightening of longitudinal diaphragm LD3033-004 which will be installed at OBG segment 13CW. This activity was documented on ZPMC heat straightening document #8799. ZPMC CWI Mr. Xu Tao had an infrared heat measurement device to monitor the temperature of the base material as it was being heat straightened. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Chen Zheng Hua, stencil 220067 was using shielded metal arc procedure WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make base metal repair welds of OBG segment 9DW side plates where temporary alignment plate welds had been removed. This QA Inspector observed the welding electrodes were being stored in a portable rod oven which was not connected to any electric power cable. When Mr. Chen Zheng Hua observed this QA Inspector inspecting the portable rod oven, Mr. Chen Zheng Hua connected the portable rod oven to an electrical power supply. This QA Inspector measured a welding current of approximately 150 amps, the base material was preheated with a torch and Mr. Chen Zheng 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. Zhou Pan, stencil 220063 was using flux cored welding procedure WPS-B-T-2233-TC-U4b-F to make OBG segment weld SEG056B-043. This weld joins a longitudinal diaphragm to a floor beam at OBG segment 9DE panel point PP87. This QA Inspector observed the base material appeared to have been preheated with a torch and Mr. Zhou Pan 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. Zang Yanbo, stencil 045196 was using shielded metal arc welding procedure WPS-B-P-2211-B-U2-FCM to tack weld a temporary alignment plate adjacent to OGB segment 9BW bottom plate as authorized by critical weld repair document CWR-1722. This QA Inspector observed the base material adjacent to this weld was preheated with a torch and Mr. Zang Yanbo appeared to be certified to make this weld. See the photograph below for additional information. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Zichuan, stencil 205098 was using shielded metal arc welding process to make tack welds between various "T" stiffener plates on the cross beam side where OBG segment 9BW joins 9CW. This QA Inspector observed the base material adjacent to this weld was preheated with a torch and Mr. Xu Zichuan appeared to be certified to make this weld. Prior to tack welding ZPMC workers used a mechanical jack to align the "T" stiffener plates. See the photograph below for additional information. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welders Mr. Sun Kang, stencil 220407 and Mr. Lv Yongquan stencil 500409 were using shielded metal arc welding process to make temporary alignment plate tack welds between OBG segment 9CW and 9DW side and bottom plates. These temporary plates were installed to allow ZPMC to maintain alignment of these weld joints. This QA Inspector observed ZPMC personnel used a torch to preheat the base material prior to welding and both welders appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Peng Jian Cheng, stencil 222396 was using flux cored welding procedure WPS-B-T-2231-TC-U4c-F to make OBG bikepath cantilever beam weld BK001-PP75-0099. This QA Inspector observed ZPMC personnel used a torch to preheat the base material prior to welding and Mr. Peng Jian Cheng appeared to be certified to make this weld. This QA Inspector observed a welding current of approximately 290 amps and 27.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Guimin stencil 220069 was using flux cored welding process to make temporary alignment plate tack welds between OBG segment 9DE and cross beam CB12 side plate stiffener plates. ZPMC personnel used a mechanical jack to align/reposition the stiffener plates prior to welding. See the photograph below for additional information. 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 welders Mr. Wei Dashuai stencil 051246 and Mr. Xin Meng, stencil 053742 were using flux cored welding process to make tack welds between OBG segment 9DE and cross beam CB12 bottom plates. These temporary plates were installed to allow ZPMC to maintain alignment of these weld joints. This QA Inspector observed ZPMC personnel used a torch to preheat the base material prior to welding and both welders appeared to be certified to make these welds. Items observed on this date appeared to generally 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

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Reviewed By: Carreon,Albert

QA Reviewer