DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-015083
Date Inspected: 22-Jun-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
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. An Qing Xiang,, Mr. Sa Zhi, Mr. Luan Zhao Gang

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. Li Shuqiang, stencil 053609 is using flux cored welding procedure WPS-B-T-223(2)T-2 to make the root pass of weld OBE9-008. This butt weld joins the top deck plates between OBG segments 9BE and 9CE. This QA Inspector measured a welding current of approximately 240 amps, 31.5 volts and Mr. Li Shuqiang appears to be certified to make this weld. The WPS lists a maximum voltage of 30 volts and Mr. Li Shuqiang appears to be welding with a voltage that is approximately 1.5 volts above the maximum listed in the WPS. This QA Inspector informed ZPMC QC Inspector Mr. Wang Li Yang who adjusted the voltage to approximately 29.0 volts. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wei Dashuai, stencil 051246 is using flux cored welding procedure WPS-B-T-2231-T-2 to make the root pass of weld OBE9-007. This butt weld joins the top deck plates between OBG segments 9BE and 9CE. This QA Inspector measured a welding current of approximately 250

amps, 29.5 volts and Mr. Wei Dashuai appears to be certified to make this weld and the base material appears to have been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xin Meng, stencil 053742 is using flux cored welding procedure WPS-B-T-2231-T-2 to make the root pass of weld OBE9-009. This butt weld joins the top deck plates between OBG segments 9BE and 9CE. This QA Inspector measured a welding current of approximately 200 amps, 24.0 volts and Mr. Xin Meng appears to be certified to make this weld. The WPS lists a minimum welding current of 224 amps and a minimum voltage of 26 volts and Mr. Xin Meng appears to be welding with a welding current that is approximately 24 amps low and a voltage that is approximately 2.0 volts below the minimum listed in the WPS. This QA Inspector informed ZPMC QC Inspector Mr. Wang Li Yang who adjusted the welding machine to approximately 230 amps and 27.0 volts. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Ruchen, stencil 066881 is using flux cored welding procedure WPS-B-T-2231T to make the root pass of weld OBE9B-008. This butt weld joins the bottom plates between OBG segments 9BE and 9CE. This QA Inspector measured a welding current of approximately 300 amps and 34.5 volts. The WPS lists a maximum voltage of 30 volts and Mr. Li Shuqiang appears to be welding with a voltage that is approximately 4.5 volts above the maximum listed in the WPS. This QA Inspector informed ZPMC QC Inspector Mr. Wang Zhu who adjusted the voltage to approximately 29.0 volts. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Qingbo, stencil 068501 is using flux cored welding procedure WPS-B-T-2231T to make the root pass of weld OBE9B-008. This butt weld joins the bottom plates between OBG segments 9BE and 9CE. This QA Inspector measured a welding current of approximately 290 amps and 28.0 volts. The base material appears to have been preheated with electric heating elements and Mr. Wang Qingbo appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

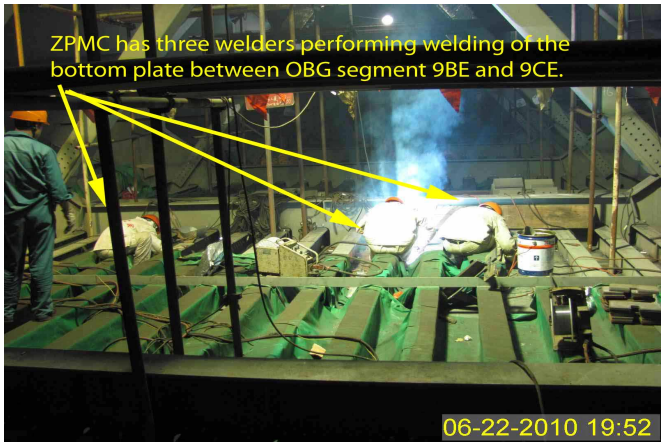
This QA Inspector observed ZPMC welder Mr. Li Bo, stencil 067993 is using flux cored welding procedure WPS-B-T-2231T to make the root pass of weld OBE9B-008. This butt weld joins the bottom plates between OBG segments 9BE and 9CE. This QA Inspector measured a welding current of approximately 310 amps and 32.5 volts. The WPS lists a maximum voltage of 30 volts and Mr. Li Bo appears to be welding with a voltage that is approximately 2.5 volts above the maximum listed in the WPS. This QA Inspector informed ZPMC QC Inspector Mr. Wang Zhu who adjusted the voltage to approximately 29.0 volts. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jiang Jingong, stencil 066361 is using shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make shielded metal arc repair weld SSD18-PP064-171. This weld is near panel point PP068 adjacent to where cross beam CB9 will be attached to OBG segment 9AW. Mr. An Qing Xiang informed this QA Inspector that weld had been identified as having visual rejections. This QA Inspector observed Mr. Jiang Jingong has a welding current of approximately 160 amps and Mr. Jiang Jingong appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven and the base material is being preheated with an acetylene torch prior to

welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Dong Youcun, stencil 067588 is using shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make shielded metal arc repair weld FB023-009-128. This weld is near panel point PP068 adjacent to where cross beam CB9 will be attached to OBG segment 9AW. Mr. An Qing Xiang informed this QA Inspector that weld had been identified as having ultrasonic rejections and is being documented on weld repair document B-WR13729. This QA Inspector observed Mr. Dong Youcun has a welding current of approximately 160 amps and Mr. Dong Youcun appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven and the base material is being preheated with an acetylene torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhou Bing, stencil 067764 is using shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-Repair-1 to make shielded metal arc repair weld SSD25-PP069-117. Mr. An Qing Xiang informed this QA Inspector that weld had been identified as having ultrasonic rejections and is being documented on weld repair document B-WR13715. This QA Inspector observed Mr. Zhou Bing has a welding current of approximately 160 amps and Mr. Zhou Bing appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven and the base material is being preheated with an acetylene torch prior to welding. 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

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Reviewed By: Carreon,Albert QA Reviewer