

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-018705**Date Inspected:** 11-Nov-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: Mr. Li Yan Hua, Mr. Peng Wen Jun, Mr. Xu Tao, 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

ABF issued "UT Report" number UT-11E-046 and UT-11E-047 informing QA that on 11-11-2010 at 11:00 hours ABF Inspectors had completed ultrasonic (UT) inspections of DP to EP-E5 weld SEG068*-049 (CA087-002) and DP to EP-E6 welds SEG068A-046 (CA087-001). These hold back welds are located on cross beam side deck plates to edge plates on OBG segments 11BE and 11CE in the trial assembly area. This QA Inspector observed ABF/Sense UT Inspectors have identified both of these welds were ultrasonically acceptable. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. Note: These inspections were documented and tracked on "Verification Witness Request" documents. See the TL-6027 UT report for additional information concerning this inspection.

OBG Bay 14

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

This QA Inspector observed ZPMC welder Mr. Shi Jiabao, stencil 068494 used flux cored welding procedure WPS-B-T-2233-TC-P4-F to make OBG segment 13AE weld SEG3007G-017 & -019 near panel point PP119. This QA Inspector observed Mr. Zhong Yong Gang has recorded a welding current of 201 amps and 25.4 volts. This QA Inspector observed Mr. Shi Jiabao appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Huang Hongpei, stencil 037705 used flux cored welding procedure WPS-B-T-2233-TC-P4-F to make OBG segment 13AE weld SEG3007G-017 & -019 near panel point PP119. This QA Inspector observed Mr. Zhong Yong Gang has recorded a welding current of 207 amps and 25.6 volts. This QA Inspector observed Mr. Huang Hongpei appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Kua Wen Shan stencil 054013 used shielded metal arc welding procedure specification WPS-B-P-2113-TC-U4B-F to make OBG segment 13AE weld SEG3007C-036 near panel point PP120. This QA Inspector measured a welding current of approximately 170 amps, the welding electrodes were stored in a portable rod oven which was warm to the touch and Mr. Kua Wen Shan 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. Wang Li, stencil 044772 used shielded metal arc welding procedure specification WPS-B-P-2113-C-U4B-F to make OBG segment 13AE weld SEG3007B-042 near panel point PP120. This QA Inspector measured a welding current of approximately 170 amps, the welding electrodes were stored in a portable rod oven which was warm to the touch and Mr. Wang Li 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. Jin Rong, stencil 066471 preparing to use shielded metal welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make OBG weld repair of ultrasonic rejections in weld SEG3007G-047. ZPMC has issued weld repair document B-WR16849 for his repair. This weld joins floor beam FB3126A to the bottom plate. This QA Inspector observed Mr. Wu Hai Jun 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. Tian Zhaoquan, stencil 045246 used shielded metal arc welding procedure specification WPS-B-P-2212-FCM-1 to complete tack welds between OBG segment 13W floor beam diaphragm plate X4082A to deck plate DP3120A.

This QA Inspector observed Mr. Wei Yingchong appeared to be certified to make this weld, the welding electrodes were stored in a portable rod oven which was warm to the touch and the base materials were preheated 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 Mr. Yu Hui Ye, stencil 045143 used flux cored welding procedure specification WPS-B-T-2132 to perform OBG segment 13BW weld SEG3014P-013. This QA Inspector observed ZPMC QC Inspector has recorded a welding current of 312 amps and 30.8 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ge Hao, stencil 201583 used flux cored welding procedure

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

specification WPS-B-T-2132 to perform OBG segment 13BW weld SEG3015E-083. This QA Inspector observed ZPMC QC Inspector has recorded a welding current of 310 amps and 25.1 volts. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 16

This QA Inspector observed ZPMC welder Mr. Chu Kun Qian, stencil 218995 used flux cored welding procedure WPS-B-T-2132 to make traffic barrier welds W5-SB1-055-082 through -087. This QA Inspector observed a welding current of approximately 290 amps, 31.0 volts, the base materials were preheated with a torch prior to welding and Mr. Chu Kun Qian, 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. Qui Yilian, stencil 206296 used flux cored welding procedure WPS-B-T-2132 to make traffic barrier welds W5-SB10-010-075 through -078. This QA Inspector observed a welding current of approximately 270 amps, 26.0 volts, the base materials were preheated with a torch prior to welding and Mr. Qui Yilian, appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 19

This QA Inspector observed ZPMC welder Mr. Yin Guo Qiang, stencil 058792 used flux cored welding procedure WPS-B-T-22232-TC-U4B-F to make to make suspender bracket weld SB021-098E-009. This QA Inspector observed a welding current of approximately 320 amps and 34.0 volts, the maximum welding voltage listed in the WPS is 32.5 volts and that Mr. Yin Guo Qiang has a welding voltage that is approximately 1.5 volts above this maximum limit.

ABF CWI Mr. Peng Wen Jun agreed the welding voltage is above the maximum and the welder adjusted the welding voltage to approximately 32 volts. QA Inspector observed that Mr. Yin Guo Qiang appeared to be certified to make this weld. Following adjustment of the welding voltage, items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Jian Kang, stencil 062762 used shielded metal arc welding procedure WPS-B-T-2231-TC-U4B-F to make suspender bracket tack weld SB024-108W-037. This QA Inspector observed a welding current of approximately 300 amps and 32.0 volts and the base materials appear to have been preheated with electrical heating elements. This QA Inspector observed Mr. Zhang Jian Kang appeared to be certified to perform this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Cheng Long, stencil 062786 used flux cored welding procedure WPS-B-T-2231-TC-U4B-F to make to make bracket tack weld SB026-110W-103 through -110. This QA Inspector observed CWI Mr. Peng Wen Jun has recorded a welding current of 318 amps, 31.6 volts and Mr. Wang Cheng Long appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

WELDING INSPECTION REPORT

(Continued Page 4 of 4)



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 James Devy +8615000026784, who represents the Office of Structural Materials for your project.

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