

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-001085**Date Inspected:** 17-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Sha Zhi, Lu Jianping, Wu Mingkai			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:** 77M/89M/144 M mockup and OBG floor beam**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

Bay 1 - No work.

Bay 2

89 Meter Mockup MUB-MA21:

QA Inspector Brannon randomly observed ZPMC qualified welder's Mr. Fu Yanjie ID#066268, Mr. Tan Xiangbo ID#066459, Mr. Ge Hingai ID#037780 and Mr. Du Henghua ID#037779 groove welding fill passes joining, piece # mp502-1 to MA38-1 and SA215 weld joints #1, 2 3 & 4. Mr. Fu, Mr. Tan, Mr. Ge and Mr. Du was observed welding in the 2G (horizontal) position utilizing shield metal arc welding (SMAW) process with a 5.0mm diameter electrode, filler metal brand E7018, class THJ506-Fe-1, manual. QA Inspector Brannon observed the ZPMC QC CWI Inspector Sha Zhi verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Sha Zhi to be: preheat temperature of 110°C and welding parameters amps of 224, 219, 220 & 217 respectively. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-4312-TC-p4-2 Rev. 0.

114 Meter Mockup MUC-MA106 B/C:

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Xu Xan ID #052917 groove welding fill

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pass for weld joint #1A joining MUC-MA113 to MA109. Mr. Xu was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.8mm diameter electrode, filler metal brand EM12k, class JW3 machine. QA Inspector Brannon observed the ZPMC QC Inspector Lu Jianping verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed welding parameters measured by the QC CWI Inspector Lu Jianping welding parameters to be 690 amps, 33.0 volts and a travel speed of 415 mm/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2221-C-U2b-S, Revision 0.

89 Meter Skin PL Sub-Assembly Face D:

QA Inspector Brannon randomly observed ZPMC personnel removing tack weld for weld joint #10, peice #P871-1 to mp542-1, MUSB-MA22 B/B, that had cracked by method of grinding. After removing weld metal ZPMC QC Mr. Lay Tao informed QA Inspector Brannon that ZPMC will perform magnetic particle (MT) testing tomorrow morning.

77Meter Diaphragm Sub assembly MUSA-SA104

QA Inspector Brannon randomly observed ZPMC personnel beveling diaphragm sub assembly plate using a track guided oxy-fuel cutting torch.

Bay 3

OBG Side Plates SP025 and SP017:

QA Inspector Brannon randomly observed ZPMC qualified welder Mrs. Gu Caihong ID #0553748 groove welding fill/cover passes for SP025-01-001 and SP017-01-001 joining PL80A to PL80B and PL76A to PL76B respectively.

Mrs. Gu was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.8mm diameter electrode, filler metal brand EM12k, class JW3 machine. QA Inspector Brannon observed the ZPMC QC Inspector Wu Mingkai verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed welding parameters measured by the QC CWI Inspector Wu Mingkai welding parameters to be 510 amps, 33.5 volts and a travel speed of 419 mm/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2221-B-L2c-S-1, Revision 0.

Bay 7

OBG Floor Beam FB1 and FB7:

QA Inspector Brannon randomly observed ZPMC qualified welder's Mr. Wang Changfe ID#058102 and Mr. Ren Jinshu ID#044837 tack welding joining stiffener plates X2E, X2F, X2H, X7K, X3K & X3L to floor beams FB1 and FB7. Mr. Wang and Mr. Ren was observed welding in the 2G (horizontal) position utilizing shield metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand E7018, class THJ506-Fe-1, manual.

QA Inspector Brannon observed the ZPMC QC CWI Inspector Zhang Zhong verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Zhang Zhong to be: preheat temperature of 40°C and welding parameters amps of 189 & 180 respectively. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2112-FCM.

The following digital photograph below illustrates observation of the activities being performed.

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Summary of Conversations:

As stated within the report.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Brannon, Sherri

Quality Assurance Inspector

Reviewed By: Carreon, Albert

QA Reviewer