

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-001092**Date Inspected:** 26-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 830**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Xi, Xu Lefeng**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:** Caltrans Mock-Up**Summary of Items Observed:**

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

The Caltrans QA Inspector randomly observed machine Submerged Arc Welding (SAW) of fill passes on the Upper Shaft Assembly of the 114M Tower Mock-Up, Weld No. MUC-MA106 B/C-2A. This outside weld of Skin C to Skin D is a complete joint penetration (CJP) groove weld and was being welded in the flat groove (1G) welding position. The welding operator was Yun Chaunjing (I.D. No. 0503060), whose qualifications for this welding are listed in ZPMC's Master List of Welders/Welding Operators/Tack Welders, Revision 7. Welding Procedure Specification (WPS) No. WPS-B-T-2221-C-U2b-S was being used for this weld. ZPMC CWI, Chen Xi (CWI No. 070072021) was present during this welding. The QA Inspector also noted that documentation of minimum/maximum preheat/interpass temperatures, voltage, amperage and travel speed by the CWI were within the specified ranges of the WPS up until the time of random observation. The QA Inspector also randomly measured the amperage and voltage by use of a calibrated Fluke amp/volt meter, measured and calculated the travel speed using a tape measure and stop watch, and used temperature indicating crayons to measure minimum preheat and minimum/maximum interpass temperature..

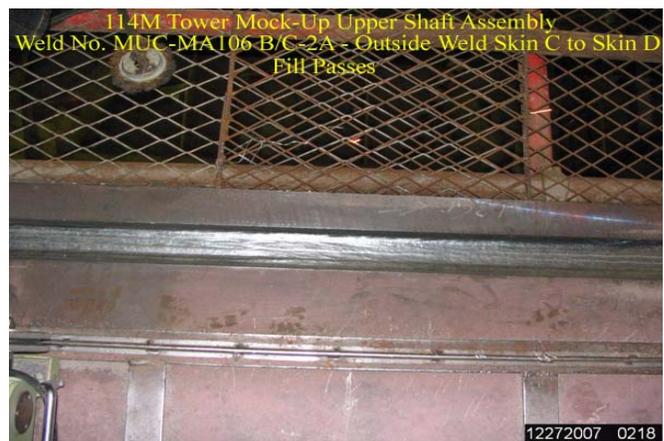
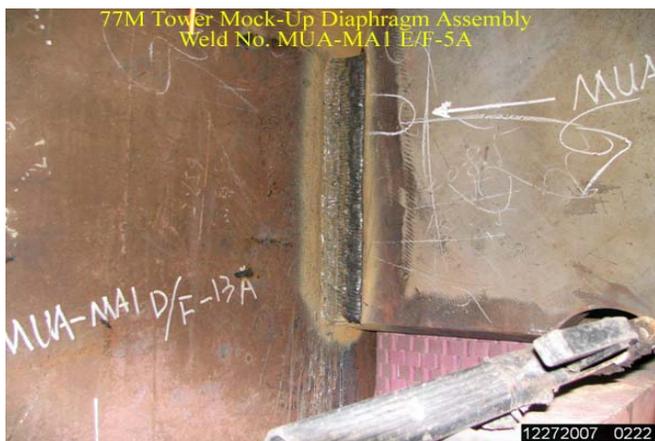
The Caltrans QA Inspector also randomly observed the manual Shielded Metal Arc Welding (SMAW) on the 77M Tower Mock-Up Diaphragm Assembly, Weld Nos. MUA-MA1 E/F-5 and 6. Weld No. 5 joins Sub-Assembly MA1 to Sub-Assembly SA104. Two welders were welding on this joint. ZPMC designated one welder as "A" and one welder as "B" by adding "A" or "B", as applicable, in parenthesis to the Weld No., i. e., Weld No.

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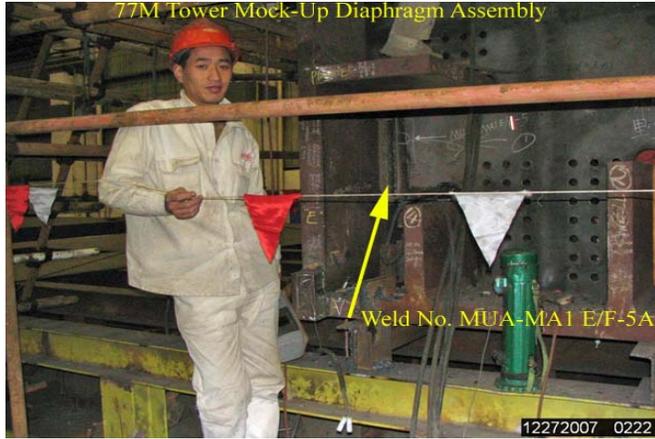
MUA-MA1 E/F-5(A) was designated for welder Cao Tao (I. D. 066163) and Weld No. MUA-MA1 E/F-5(B) was designated for welder Yang Shuwei (I. D. 066280). There were also two welders welding on Weld No. 6. Weld No. MUA-MA1 E/F-6(A) was designated for welder Tan Xiangbo (I. D. 066459) and Weld No. MUA-MA1 E/F-6(B) was designated for welder Liang Yanhai (I. D. 066457). All four welders' qualifications for this welding are listed in ZPMC's Master List of Welders/Welding Operators/Tack Welders, Revision 7. ZPMC CWI, Xu Lenfeng (CWI No. 07031411) was present during this welding, as was Bureau Veritas Inspector, Zhang Xu Wang. The QA Inspector also noted that documentation of minimum/maximum preheat/interpass temperatures, voltage, amperage and travel speed by the CWI were within the specified ranges of the WPS up until the time of random observation. The QA Inspector also randomly measured the amperage and voltage by use of a calibrated Fluke amp/volt meter, and used temperature indicating crayons to measure minimum preheat and minimum/maximum interpass temperature. These are partial joint penetration (PJP) groove weld and were being welded in the vertical groove (3G) welding position. Welding Procedure Specification (WPS) WPS-B-T-4313-TC-P4-1 was being used for this welding. The specified electrode, THJ506-Fe-1 (E7018-1) was being used and portable electrode ovens were in use.

All observations appeared to meet the requirements of the job specifications.



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Summary of Conversations:

As identified within the contents of this 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:	Jobs, Kenneth	Quality Assurance Inspector
Reviewed By:	Cochran, Jim	QA Reviewer
