

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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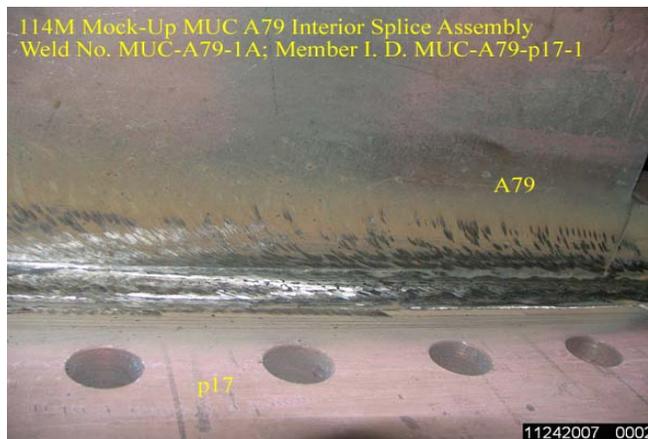
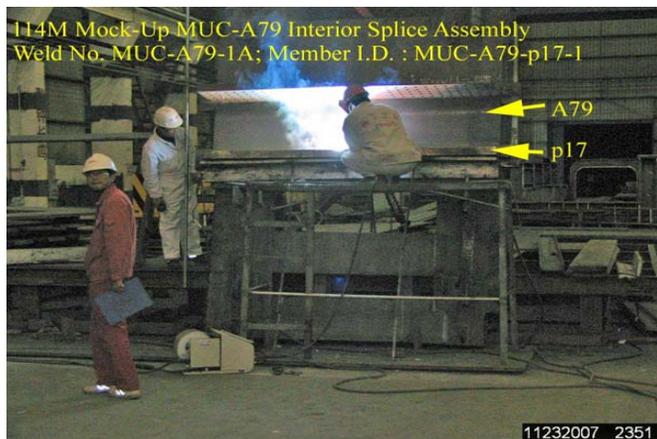
Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000900**Date Inspected:** 23-Nov-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Xi**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 observed welding on the 114M Mockup Interior Splice Assembly MUC-A79, Weld No. MUC-A79-1A, Member I. D. MUC-A79-p17-1 shown on Drawing No. MUC-A79, Rev. 0. The welder was Chang Chuancang, Welder No. 053870. The Welding Procedure Specification (WPS) No. was WPS-B-T-2231-TC-U5-F for Flux Cored Arc Welding (FCAW). This is a complete joint penetration (CJP) groove in the flat groove (1G) welding position. Both base materials being welded were ASTM A709, Grade 345, and the thicknesses were 70 mm and 75 mm. The QA Inspector observed on a random check using a calibrated Fluke Ampmeter/Voltmeter that the amperage and voltage were within the ranges of the WPS. The travel speed was observed to be within the range of the WPS by measuring arc time with a stop watch, and length of weld with a tape measure and calculating travel speed. It was also observed by the QA Inspector that the fabricator's documentation of preheat/interpass temperature, voltage, amperage, and travel speed showed compliance with the WPS up until the time of the random observation. The QA Inspector also observed that fabricator's CWI, Chen Xi (CWI No. 07072021); and Bureau Veritas Inspector, Li Gang were present during this welding.

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Item Description	WBS	Dwg No.	Status
1 77M Mockup Upper Diaphragm Sub-Assembly SA104		MUSA-SA104 B/B, Rev. A	

The Caltrans QA Inspector observed welding on the 77M Mock-Up Upper Diaphragm Sub-Assembly SA104. The four welds being welded are shown on Drawing No. MUSA-SA104 B/B, Rev. A. Both base materials being welded were ASTN A109 Grade 485 and the thicknesses were 60 mm and 75 mm. The WPS being used was WPS-B-T-3312-TC-P5(2G), Rev. 0 for Shielded Metal Arc Welding (SMAW) using E9018M-H4R welding electrodes. The diameter of the electrodes being used was 4.8 mm. The welds are all partial joint penetration (PJP) groove welds being welded on the horizontal groove (2G) welding position. The QA Inspector also observed that fabricator's CWI, Zhu Zhonghai (CWI No. 07072101); and Bureau Veritas Inspector, Li Gang were present during this welding.

The QA Inspector observed on a random check of each of the four welds that the amperage and voltage were within the ranges of the WPS. This was accomplished using a calibrated Fluke Ampmeter/Voltmeter. It was also observed that the fabricator's documentation of preheat/interpass temperature, voltage, amperage, and travel speed showed compliance with the WPS up until the time of the random observation for each of the four welds.

The four welds are as follows:

Weld No. MUSA-SA104-B/B-5  
Member I. D. MUSA-SA104-p720  
Welder: Guo Deng Yun No. 037997

Weld No. MUSA-SA104-B/B-6  
Member I. D. MUSA-SA104-p720  
Welder: Cao Tao No. 066163

Weld No. MUSA-SA104-B/B-9  
Member I. D. MUSA-SA104-p721  
Welder: Li Zheng Xu No. 066179

Weld No. MUSA-SA104-B/B-10  
Member I. D. MUSA-SA104-p721  
Welder: Xu Chang Xue No. 066002

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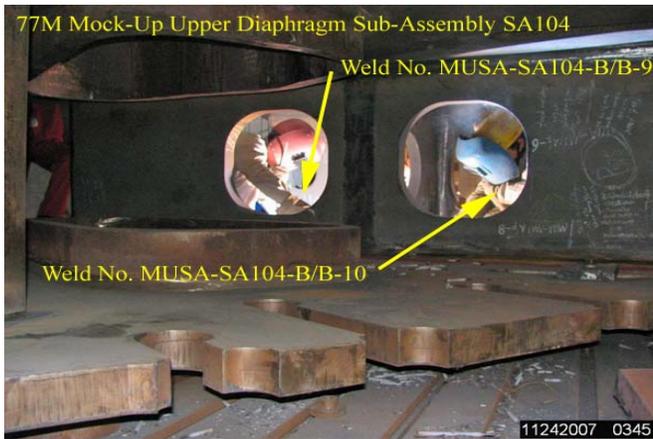
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# WELDING INSPECTION REPORT

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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.

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**Inspected By:** Jobes, Kenneth

Quality Assurance Inspector

**Reviewed By:** Cochran, Jim

QA Reviewer