

**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-001292**Date Inspected:** 17-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**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:** Xu Lefeng, Wu Ming Kai**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, OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Ken Jobses, 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 the machine Submerged Arc Welding (SAW) of Weld Nos. MUB-MA21 D/J-3B, Skin C to Skin D, on the 89M Tower Mock-Up. Welding Procedure Specification (WPS) WPS-B-T-2221-C-U2b-S was being used. The base materials were A709M Grade 345 to ASTM A709M Grade 345. The filler metal was 4.8 mm diameter EM12K (JW-3) with JF-B flux and the weld was being made in the flat groove (1G) welding position. The welding operator was Wu Zhibin (I.D. No. 049804), whose qualifications for this welding are listed in ZPMC's Master List of Welders/Welding Operators/Tack Welders, Revision 7. ZPMC CWI, Xu Lefeng (AWS CWI No. 07031461) was present during this welding. The QA Inspector noted that documentation of preheat/interpass temperature, 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 observed the semi-automatic Flux Cored Arc Welding (FCAW) repair welding on ZPMC Welding Repair No. 066 on the 77M Diaphragm Mock-Up. This is Weld No. MUA-MA1 D/F-13B, joining Piece Mark MA1 Skin E Sub-Assembly to MA2 Skin A Sub-Assembly. Both base materials are ASTM A709 Grade 50 (345)-2 and are 100 mm and 90 mm in thickness. The QA Inspector observed that WPS No. WPS-345-FCAW-1G (1F)-Repair was being used for this repair welding. The welder was Wang Bing (I. D. No. 048696), whose qualifications for this welding are listed in ZPMC's Master List of Welders/Welding Operators/Tack Welders, Revision 7. The QA Inspector also noted that documentation of minimum/maximum preheat/interpass

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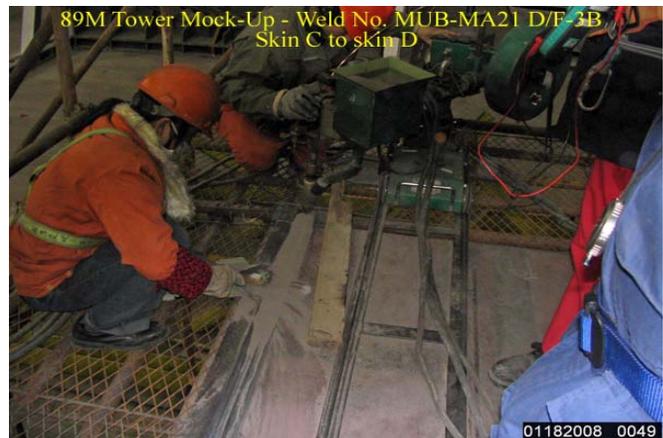
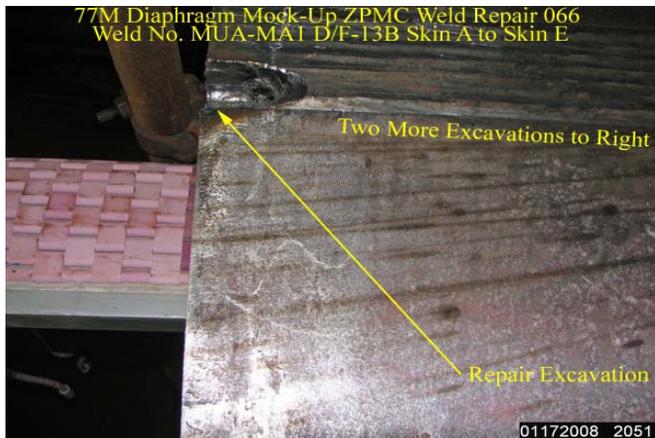
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temperatures, voltage, amperage and travel speed by CWI, Zhu Zhonghai (AWS CWI No. 07072121), were within the specified ranges of the WPS up until the time of random observation.

The QA Inspector also observed the machine FCAW of RS1E plate stiffeners to Side Plate SP1, Weld Nos. SP001-01-007 and 008, simultaneously on the gantry welding station in ZPMC's Bay No. 3. The welding was being performed in the horizontal fillet (2F) welding position. It was observed that preheating elements were positioned ahead of the welding and removed as the welding progressed and that the Quality Control (QC) Inspector, Guo Yang Wei, was checking the preheat temperature using a calibrated infra-red temperature indicator. WPS-B-T-2132-3 was being used for this welding. American Welding Society Certified Welding Inspector (CWI), Wu Ming Kai (CWI No. 04082031), 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 QC Inspector was within the specified ranges of the WPS up until the time of random observation.

The QA Inspector also observed the cleaning of welds by grinding and burring on Floor Plates FB8 and FB16 (2 assemblies).

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.

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<b>Inspected By:</b>	Jobes, Kenneth	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cochran, Jim	QA Reviewer
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