

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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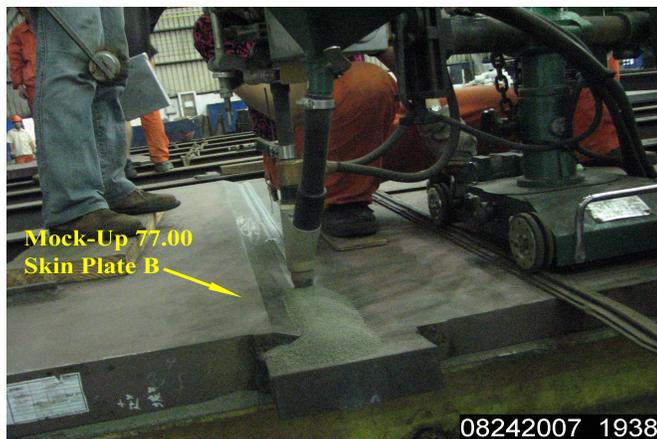
Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000440**Date Inspected:** 24-Aug-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2200**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shinghai, China**CWI Name:** Xu Le Feng, Xu Liang Zhang**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:** Mock-Up 77.00**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fitup and welding of the Caltrans Mock-up #77.00, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Caltrans QA Inspector observed submerged arc welding (SAW) in progress at skin plate B, piecemark mp11 to MA3, inside side. The in process subassembly fabrication, appears to be at step 6.1 in regards to the mock-up fabrication procedure flow plan. The weld joint is identified as a double-vee butt joint with a partial joint penetration weld. The welder operator is identified as Ms. Shen Mei. The approved welder is observed welding the partial joint penetration (PJP), fill and cover pass welds, in the flat position. The welder is using welding procedure specification (WPS), WPS-B-T-2321-B-P3-S, Revision 0. Caltrans QA Inspector measured current welding operating parameters at approximately 700 amps, 33.0 volts, 621 millimeters per minute (mm/min) travel speed. Preheat and interpass temperatures were verified during welding activities. Preheat temperature prior to the start of welding, measured more than 110 Celsius (230 degree Fahrenheit) but less than 232 Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. Caltrans QA observed ZPMC Quality Control (QC) inspector, Mr. Xu Le Feng and Bureau Vereitas QC inspectors, Mr. Xu Liang Zhang and Mr. Hou Jing Yao monitoring welding in progress. Following digital picture illustrates welding in progress.

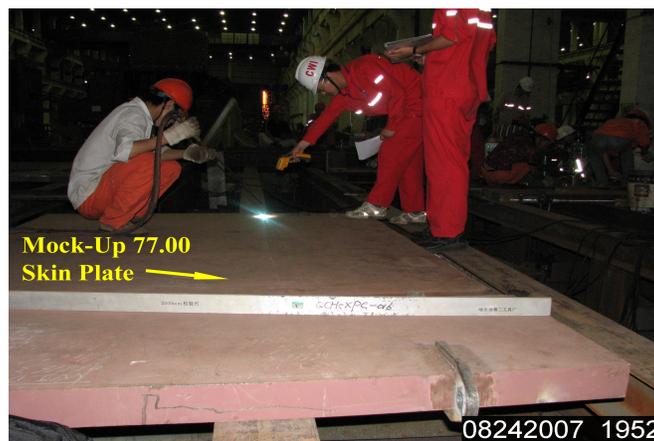
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Item	Description	WBS	Dwg No.	Status
1	Skin Plate D	NA	NA	Welding in progress

Caltrans QA Inspector witnessed the heat straightening of skin plate D, per procedure HSR1 (CT)-037, Revision 0. ZPMC applied heat, with the use of a hand held oxygen/acetylene-fuel flame type torch. The sketch on the procedure states, maximum deformation is about 2mm's at three locations. ZPMC monitored the applied heat to the plate, with the use of a hand held device, identified as an infrared laser temperature gun. Caltrans QA Inspector randomly observed that the maximum heat being applied to the plate is approximately 550 Celsius. The procedure states, maximum heat to be applied, 650 Celsius. The heat straightening of the plate appeared to be in general conformance with the procedure and contract documents. Caltrans QA Inspector observed ZPMC QC inspector, Mr. Xu Jinglong and Certified Welding Inspector (CWI), Mr. Gu Xinghai monitoring the heat straightening of the skin plate D. Following digital pictures illustrate method and verification of the heat straightening of the plate.



## 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>	Hasler, Mike	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer
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