

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-000745**Date Inspected:** 25-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sha Zhi & Huang Li**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 Mockup**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fit up, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M, 114M and U-Rib Trial Assembly, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item	Description	WBS	Dwg No.	Status
1	Skin Plate C/D	NA	NA	Work in Progress

Mock-Up 89M, Skin Plate C/D, Longitudinal Stiffener Plates: Caltrans QA Inspector observed shop worker performing air carbon arc backgouging at complete joint penetration (CJP) weld joint, joining longitudinal stiffeners, where the root pass welds have been completed on the opposite side. Caltrans QA Inspector observed flux cored arc welding (FCAW), splice plate root pass weld, joining piecemark mp537A-1 to mp537B-1 stiffener plates, in the flat position. The welder is identified as Mr. Lei Leihao, welder stamp 053619. The welder is using welding procedure specification WPS-B-T-2231-B-U3-F. Caltrans QA observed ZPMC Quality Control inspector, Mr. Sha Zhi and Mr. Huang Li, monitoring welding activities at the workstation. Caltrans QA Inspector measured current welding parameters at approximately 320 amps, 31 volts and 330 millimeters per minute (mm/min) travel speed. Preheat and interpass temperatures were verified during welding activities. The preheat temperature prior to the start of welding measures more than 110 Celsius (230 degree Fahrenheit) but less than 232 Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. FCAW consumable is verified and identified as Supercored 71H, classification E71T-1, diameter 1.4 mm (.055 inches). Following digital pictures illustrates air carbon arc gouging and welding in progress

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2 Skin Plate C NA NA Welding in Progress

Mock-Up 89M, Skin Plate C: Caltrans QA Inspector observed submerged arc welding (SAW) in progress at complete joint penetration plate splice weld, identified as weld number 25. The welder operator is identified as Mr. Han Changhou, welder stamp 059464, welding fill pass weld in the flat position. The welder is using welding procedure specification, WPS-B-T-2221-B-U3c-S, Revision 0. Caltrans QA Inspector measured current welding parameters at approximately 630 amps, 32.0 volts and travel speed, 580 millimeters per minute (mm/min). Preheat and interpass temperatures were verified during welding activities. Preheat temperature prior to the start of welding measures more than 110 degrees Celsius (230 degree Fahrenheit) but less than 232 degrees Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. SAW consumables were verified and identified as JW-3, classification EM12K, diameter 4.8 mm (.189 inches) electrode and, JF-B Flux, classification F7A2. Following digital picture illustrates welding in progress.



3 U-rib Assembly NA NA Practice Welding

OBG U-Rib Trial Assembly: Caltrans QA Inspector observed ZPMC practice welding on the small u-rib trial assembly. Caltrans QA Inspector observed ABF and ZPMC inspectors were present during the practice welding of the assembly.

Summary of Conversations:

ZPMC informed Caltrans QA inspector that at 10:00 hours, ZPMC is going to officially start fabrication on the Caltrans Project and would be starting with oxy-fuel flame, cutting bottom (X14-X14A) and, side plates for the orthotropic bridge girder. Following digital picture illustrates work in progress.

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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:	Hasler, Mike	Quality Assurance Inspector
Reviewed By:	Cuellar, Robert	QA Reviewer
