

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-000393**Date Inspected:** 30-Aug-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Ye Yong Jun, Hou Jing Yao**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 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.

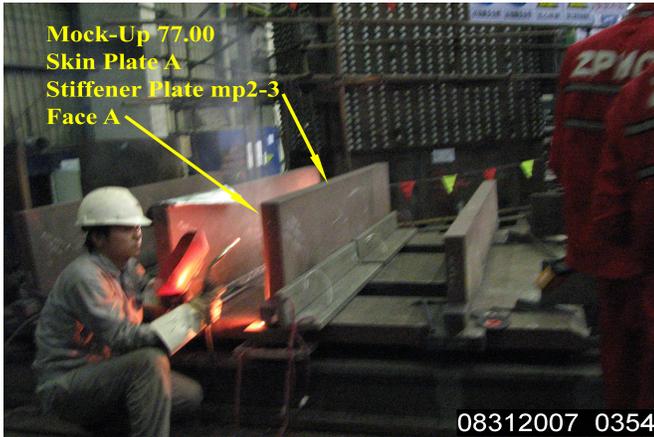
Caltrans QA Inspector observed flux cored arc welding (FCAW) complete joint penetration (CJP) welding in progress. The assembly is identified as Skin Plate A, stiffener plate mp2-3, A-side, weld number MA2-2, cover pass weld in the 2G horizontal position. The approved welder is identified as Mr. Zhou Shijie. The welder is using welding procedure specification WPS-B-T2232-T-U5-F, Revision 1. Caltrans QA Inspector measured current welding parameters at approximately 315 amps, 31.5 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 welding consumable is verified and identified as Supercored 71H, classification E71T-1, diameter 1.4 mm (.055 inches).

After the completion of the cover pass welding of A-side, approved welder Mr. Sun Houfu starting the welding of the B-side of stiffener plate mp2-3. The welder is observed welding fill pass weld in the 2G position. Caltrans QA Inspector measured current welding parameters at approximately 300 amps, 31 volts and 310 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 welding consumable is verified and identified as Supercored 71H, classification E71T-1, diameter 1.4 mm (.055 inches). Caltrans QA observed ZPMC Quality Control (QC) Certified Welding Inspector (CWI) Mr. Ye Yong Jun and Bureau Veritas inspector, Mr. Hou Jing Yao monitoring welding activities at the workstation. The following

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

digital pictures illustrate welding in progress.



Item	Description	WBS	Dwg No.	Status
1	Diaphragm Plate	NA	NA	Work in progress

Caltrans QA Inspector observed the air carbon arc backgouging of diaphragm plate SA95-1 splice weld and the submerged arc welding (SAW) of diaphragm plate SA104-2. The splice weld for the diaphragm plate SA104-2 was visually inspected for backgouge preparation prior to welding. The weld joint backgouge appeared to be ground to bright metal and bevels profiled. The weld joint was then welded with three fill pass welds and then the assembly was flipped over to resume the welding of the weld joint that had been partially welded.

The welding of the backgouged splice weld was observed by Caltrans QA for compliance. The approved welding operator is identified as Ms. Shen Mei. ZPMC QC inspector, Mr. Ye Yong Jun monitoring the welding stated that welding is being performed to WPS-B-T-3221-U3c-S, Revision 1. Caltrans QA verified the welding parameters at approximately 590 amps, 30 volts and 445 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 180 Celsius (350 degree Fahrenheit) but less than 232 Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. SAW welding consumable is verified and identified as LA85, classification ENi5, diameter 4.8 mm (.189 inches) electrode and, Mil800-HPNi, classification F9A4 flux. Following digital picture illustrates weld joint backgouge preparation prior to the welding of the splice weld.



Summary of Conversations:

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

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