

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 #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023957**Date Inspected:** 23-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Pat Swain**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:** Tower**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

This QA Inspector observed ABF personnel working at the 9 meter level in an effort to weld the external diaphragm plates to the various shear plates and tower skin plates. This QA Inspector observed the following during the shift noted above.

This QA Inspector observed ABF personnel were in the process of setting up the induction preheating equipment at weld joints #55 and #56 at approximately 0730 hours. The induction heating blankets were placed at the center section of each weld joint. At approximately 0830 hours QC Inspector Pat Swain informed this QA Inspector the minimum preheat temperature of 225°F had been obtained. This QA Inspector verified the preheat temperature using an electronic temperature gauge.

This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) and Quan Huang (#9340) were setting up the Flux Cored Arc Welding (FCAW) equipment to begin welding on weld joint #56.

This QA Inspector observed ABF welding personnel Wai Kitlai (#2953) was setting up FCAW equipment to begin welding on weld joint #55.

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At approximately 0845 hours FCAW began at both weld joints. This QA Inspector observed as QC Inspector verified the following welding parameters; Xiao Jian Wan (#9677) – 285 amperes and 23.5 volts at a travel speed of 375 mm per minute to produce a heat input of 1.07 KJ per mm, Quan Huang (#9340)- 280 amperes and 24.7 volts at a travel speed of 510 mm per minute to produce a heat input of 0.81 KJ per mm and Wai Kitlai (#2953)- 278 amperes and 25.5 volts at a travel speed of 477 mm per minute to produce a heat input of 0.89 KJ per mm. These parameters appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-3160-1.

This QA Inspector observed QC Inspector Pat Swain perform a visual inspection and Magnetic Particle Testing (MT) on the root passes of each weld joint. QC Inspector Pat Swain informed this QA Inspector he had accepted each inspection. This QA Inspector performed a visual verification and the work appeared to comply with the contract requirements.

This QA Inspector randomly observed ABF welding personnel Wai Kitlai (#2953) welded the center section, approximately 1210 mm in length.

This QA Inspector randomly observed ABF welding personnel Xiao Jian Wan (#9677) and Quan Huang (#9340) welded the center section, approximately 1800 mm in length, and one at each end.

This QA Inspector observed both weld joints were approximately 75-80% filled by the end of welding at approximately 1230 hours this date.

This QA Inspector observed the induction heat blankets were placed over the welds at approximately 1230 hours this date for the 3 hour post weld heating.

This QA Inspector observed more equipment for the Electro Slag Welding (ESW) was being brought and off loaded to the 9-Meter elevation deck area. This QA Inspector observed ABF welding personnel Rory Hogan (#3186) and Jeremy Dolman (#5042) were in the process of fitting up and welding various brackets for ladders and equipment at elevations 3, 9 and 13 in preparation to start the ESW. Both welding personnel stated ESW would not be started this date when asked by this QA Inspector.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable conversations.

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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
