

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-023447**Date Inspected:** 06-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**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 had been informed the previous day that welding would be performed at weld joints #31 and #32 but was informed this morning that welding would be performed at weld joints #33 and #35 inside the center section to shear plates b2W and b2E.

This QA Inspector observed ABF personnel setting up the induction heating equipment being used to preheat the material at approximately 0700 hours and it was approximately 0915 hours before the minimum preheat temperature of 325°F was obtained and welding was started.

This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) and Jin Quan Huang (#9340) working together as a team at joint # 33 and James Zhen (#6001) and Wai Kitlai (#2953) working as another team at joint # 35. It was observed that during breaks, such as the morning and lunch breaks, one team member would take over the duty of welding from the other in order to have continuous welding through break periods.

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This QA Inspector randomly observed as QC Inspector Pat Swain verified the following Flux Cored Arc Welding (FCAW) parameters; at weld joint # 33 – 265 amperes and 22 volts at travel speed of 370 mm per minute to produce a heat input of 0.95Kj. QC Inspector Pat Swain informed this QA Inspector that he had rejected the fit up of weld joint #35 due to an excessive root gap and excessive joint face dimensions. This QA Inspector performed a random visual verification of the fit up and observed the last 400 mm of the South end of the weld joint had a maximum root opening of approximately 10 mm and maximum land face of approximately 10 mm. This QA Inspector observed a ABF personnel used a power grinder with a bur bit to remove the metal to reduce the land face. This QA Inspector observed the land face had been ground to approximately 5 mm which was acceptable. This QA Inspector observed ABF welding personnel Wai Kitlai (#2953) using the SMAW process to weld build up the bevel in an effort the close the 10 mm root opening.

By approximately 1230 hours this date welding was stopped and weld joint #33 where FCAW production welding resulted in a root pass plus approximately 4-5 passes the full length of the weld joint. The induction heating was installed at this time and 325°F post heating for 3 hours began. The SMAW and grinding continued at weld joint #35, which was not completed during the shift this date.

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.

This QA Inspector was informed by Lead QA Inspector Bill Levell that QC Supervisor Leonard Cross would be contacting this QA Inspector regarding performing verification inspections of the root gap and plate offset at various Electro Slag Welding (ESW) weld joints. This QA Inspector spoke with Lead QC Inspector Bonifaciiio Daquinag Jr. who was on site regarding meeting with QC Supervisor Leonard Cross for the verification inspections and was informed that he was not aware when QC Supervisor Leonard Cross would be on site for this work but that he would inform this QA Inspector when he arrived.

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
