

**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-024359**Date Inspected:** 10-Jun-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:** Steve Jensen**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.

## 114 Meter elevation – West Tower – Splice Plates

This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) had completed moving the welding equipment and began using the Flux Cored Arc Welding (FCAW) process to tack weld joint #165-West. This QA Inspector was informed by QC Inspector Steve Jensen he had verified the following welding parameters; 272 amperes and 22 volts at a travel speed of 100 mm per minute to produce a heat input of 3.59 Kj per mm. The welding appeared to comply with ABF-WPS-D15-F2200-3. This QA Inspector was informed by QC Inspector Steve Jensen that production welding was not performed at this location this date.

## 114 Meter elevation – South Tower – Splice Plates

Prior to the start of welding this QA Inspector observed induction heating blankets which appeared to have been positioned over the areas to be welded in order to start the preheating process, gas troches are used to bring the preheat temperature to be within the range specified in the Welding Procedure Specification (WPS).

This QA Inspector randomly observed ABF welding personnel Xiao Jian Wan (#9677) using the FCAW process

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on the top half of weld joint #166-South. This QA Inspector was present and observed as QC Inspector Steve Jensen verified the following FCAW welding parameters; 250 amperes and 21.5 volts at a travel speed of 85 mm per minute to produce a heat input of 3.79 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3.

This QA Inspector periodically observed the welding in both the West and South Towers this date. The progress of work appears to be slower at this elevation due to the limited access for welding and grinding. This QA Inspector observed QC Inspector Steve Jensen covering both locations.

Various Orthotropic Box Girder (OBG) sections

This QA Inspector observed ABF welding personnel Fred Kaddu (#2188) using the Shielded Metal Arc Welding (SMAW) process to attach drip rails at 4E-PP28-E1, 5E-PP31-E1 and 5E-PP32-E1. There were two lengths of drip rails attached on each side of the cantilever bike path support. The drip rail lengths for the corresponding Panel Point (PP) are as follows; PP28 – 450 mm, PP31 – 140 mm and PP32 – 475 mm. This QA Inspector verified the following SMAW parameters; 125 amperes using a 3.2 diameter E7018H4R electrode. The welding observed appeared to comply with ABF-WPS-D15-F1200A. This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the work at this location. Towards the end of the shift this date, QC Inspector Fred Von Hoff informed this QA Inspector he had performed and accepted the visual inspection of the welding on the drip rails listed above. This QA Inspector performed a random visual verification and the welding observed appeared to comply with the contract requirements.

This QA Inspector observed ABF welding personnel Jorge Lopez (#6149) performing grinding, fit up and SMAW at 9E-PP79-E3 on lifting lug holes #2 and #4. This QA Inspector observed QC Inspector Fred Von Hoff verify the fit up of hole #2. This QA Inspector performed a random visual verification and the fit up appeared to comply with the contract requirements. This QA Inspector randomly observed as QC Inspector Fred Von Hoff verified the following welding parameters; 130 amperes using a 3.2 diameter 7018H4R electrode for the root pass. The welding observed appeared to comply with ABF-WPS-D15-1050A-CU. ABF welding personnel Jorge Lopez (#6149) informed this QA Inspector he did not have a helper assigned to work with him today there any additional fit ups may not get done.

This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the work listed at the locations above.

### **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.

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**Inspected By:** Hager,Craig

Quality Assurance Inspector

**Reviewed By:** Levell,Bill

QA Reviewer