

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-024420**Date Inspected:** 14-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.

Prior to the start of welding this QA Inspector observed an induction heating system consisting of either the air cooled blanket type or the liquid cooled hose type 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) as needed. At the completion of welding and/or end of the shift it appears the same induction heating system is used to provide the 3 hour post heating.

114 Meter elevation – West Tower – Splice Plates

This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the Flux Cored Arc Welding (FCAW) process on the top half of splice plate weld joint #165-West. This QA Inspector randomly observed QC Inspector Steve Jensen verify the following welding parameters; 270 amperes and 21.5 volts at a travel speed of 110 mm per minute to produce a heat input of 3.17 KJ per mm. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. The welding at this location is being performed in a small space in which movements are limited.

This QA Inspector was informed by ABF welding personnel Mike Jiminez (#4671) the pre/post heating equipment

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was being changed to the liquid system because the controller cable for the blanket system was not able to be routed to this tower due to its' size. This QA Inspector was also informed that the liquid system would only reach the top splice plates, but that a longer control cable had been ordered. At this point in time this issue has not affected the welding and post heating, but could have an impact later if not resolved.

114 Meter elevation – South Tower – Splice Plates

This QA Inspector randomly observed ABF welding personnel Xiao Jian Wan (#9677) using the FCAW process on the top half of splice plate weld joint #165-South. This QA Inspector was present and observed as QC Inspector Steve Jensen verified the following FCAW welding parameters; 250 amperes and 21.3 volts at a travel speed of 90 mm per minute to produce a heat input of 3.68 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3.

This QA Inspector randomly observed as QC Inspector Steve Jensen performed a visual inspection on weld joint #165 – South and marked several areas for additional grinding. This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) was still performing grinding at the end of this QA Inspectors' shift. This QA Inspector provided QA Inspector Jojo Lizardo a verbal turnover of the work in progress at this location.

During this QA Inspectors' shift welding was periodically observed in both the West and South Towers this date. The progress of work appears to be slower due to the limited access for welding and grinding at all locations. See photo below of splice plate fit up, weld joint #165-Southwest, noting the limited access. This QA Inspector observed QC Inspector Steve Jensen at both locations to provide coverage monitoring the welding.

## 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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<b>Inspected By:</b>	Hager, Craig	Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell, Bill	QA Reviewer
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