

**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-025076**Date Inspected:** 07-Jul-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 the blanket type appeared to have been positioned over the area 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). At the completion of welding and/or at the end of the shift it appears the same induction heating system is used to perform the 3 hour post heating.

114 Meter elevation – East Tower – Splice Plates

This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the Flux Cored Arc Welding (FCAW) process for production welding in the vertical (3F) position on weld joint #165-East. This QA Inspector randomly observed as QC Inspector Steve Jensen verified the following parameters; 272 amperes and 21.5 volts at a travel speed of 100 mm per minute to produce a heat input value of 3.51 Kj per mm. The welding observed by this QA Inspector appeared to comply with the Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. This QA Inspector observed the FCAW welding was completed and the only welding that remained for this weld joint was the overhead fillet weld which required the use of the Shielded Metal Arc Welding (SMAW) process. This QA Inspector randomly observed ABF welding personnel Salvador Sandoval

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

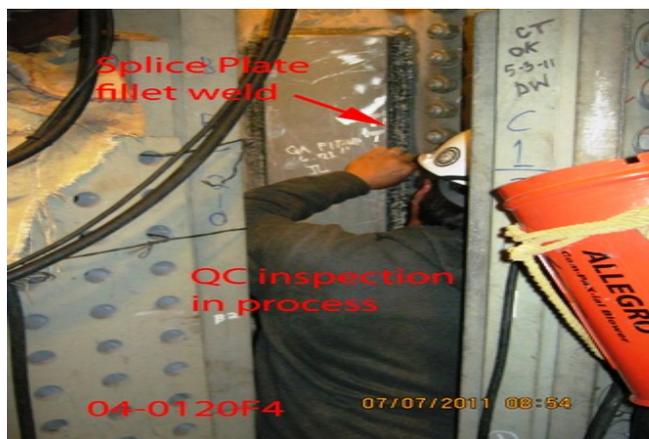
(#2202) using the SMAW process for production welding on the overhead (4F) fillet weld. This QA Inspector observed QC Inspector Steve Jensen verify the following parameters; 185 amperes using a 4.0 mm diameter E7018H4R electrode. The welding appeared to comply with ABF-WPS-D15-F1200. Later this shift this QA Inspector was present when QC Inspector Steve Jensen performed a visual inspection on weld joints #165-East and #166-East. This QA Inspector observed several areas were marked for additional welding and grinding; see photo below. QC Inspector Steve Jensen informed this QA Inspector later that the welding and grinding had been completed, the areas re-inspected and that he had accepted weld joints #165-East and #166-East. This QA Inspector performed a random visual verification and observed the work appeared to comply with the contract requirements.

This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) using the FCAW process for production welding in the vertical (3F) position on the top half of weld joint #165-Southeast. This QA Inspector randomly observed as QC Inspector Steve Jensen verified the following parameters; 245 amperes and 20.5 volts at a travel speed of 95 mm per minute to produce a heat input value of 3.17 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. See photo below noting the confined space which limits overall movement. This QA Inspector observed as QC Inspector Steve Jensen performed a visual inspection on weld joint #166-Southeast and mark several areas for grinding. This QA Inspector randomly observed as this grinding was performed by ABF welding personnel Xiao Jian Wan (#9677) and the areas re-inspected by QC Inspector Steve Jensen who informed this QA Inspector he had accepted the weld. This QA Inspector performed a random visual verification of weld joint #166-Southeast and observed the work appeared to comply with the contract requirements.

This QA Inspector periodically observed QC Inspector Steve Jensen monitoring the preheat/interpass temperatures and welding parameters during the shift. In general the work observed by this QA Inspector appeared to comply with the contract requirements.

## 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.



---

---

# WELDING INSPECTION REPORT

( *Continued Page 3 of 3* )

---

---

## 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.

---

<b>Inspected By:</b>	Hager,Craig	Quality Assurance Inspector
----------------------	-------------	-----------------------------

---

<b>Reviewed By:</b>	Levell,Bill	QA Reviewer
---------------------	-------------	-------------