

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-025075**Date Inspected:** 07-Jul-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:** Jobsite

**CWI Name:** As listed below  
**Inspected CWI report:** Yes No N/A  
**Electrode to specification:** Yes No N/A  
**Qualified Welders:** Yes No N/A  
**Approved Drawings:** Yes No N/A

**CWI Present:** Yes No  
**Rod Oven in Use:** Yes No N/A  
**Weld Procedures Followed:** Yes No N/A  
**Verified Joint Fit-up:** Yes No N/A  
**Approved WPS:** Yes No N/A  
**Delayed / Cancelled:** Yes No N/A

**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. 9E PP79 E4 Lifting Lug Access Holes #2 and 4
2. Tower East Shaft Splice #3 Elevation 114 meters
3. 10E 11E F Plate Splice
4. Crossbeam #12 Pipe Supports and Sole Plates
5. 11E 12E A1/A4/A5 VT, MT and UT

1. 9E PP79 E4 Lifting Lug Access Holes #2 and 4

The QA Inspector observed ABF welder Mike Jiminez ID# 4671 performing Shielded Metal Arc Welding (SMAW) in the 1G flat position on Lifting Lug Hole's (LLH) #2 and 4 located at 9E PP79 E4. Prior to welding the QA Inspector observed QC Inspector Fred Von Hoff inspecting the fit up of the joint and the QA verified the fit up alignment of the two access holes which were deemed acceptable as pertaining to the contract requirements. The QA Inspector observed the QC Inspector monitoring the progress to ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-1050A-CU. The work was completed on this date and the QA Inspector noted that the work appeared to be in general conformance with the contract documents.

2. Tower East Shaft Splice #3 Elevation 114 meters

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The QA Inspector observed ABF welder Xiao Jian Wan ID#9677 continuing to perform production welding on the bottom half of the lower splice plate using the self-shielded Flux Cored Arc Welding (FCAW) process with 1.8mm diameter E71T-8 wire electrode implementing Caltrans approved (WPS) ABF-WPS-D15-F2200-3 at the Southeast (C-D) corner, lower splice plate. The welder was noted as welding in the 3F vertical fillet position on the splice plate to interior corner closure plate of the tower shaft. The QA Inspector observed ABF personnel using Miller Proheat 35 Heat Induction System and propylene gas torch to preheat the plates prior to welding. The QA Inspector observed QC Inspector Steve Jensen using a Fluke infra-red temperature gauge to verify the preheat temperature of 300°F. The parameters measured during welding were 245 amperes; 22.0 volts and travel speed of 95 mm per minute with calculated heat input of 3.4 KJ per mm. ABF personnel were observed covering the weld with heat blankets in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold heat programmed to shut off after three hours. The work is in progress and the QA Inspector noted that the work appeared to be in general conformance with the contract documents.

### 3. 10E 11E F Plate Splice

The QA Inspector observed ABF welder Wen Han Yu ID# 6317 performing SMAW in the 3G vertical position on Plate Splice F located at 10E 11E F1. The QA Inspector observed the QC Inspector Fred Von Hoff monitor the progress and ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-1040A Rev. 1. The work is in progress and the QA Inspector noted that the work appeared to be in general conformance with the contract documents.

### 4. Crossbeam #12 Pipe Supports and Sole Plates

The QA Inspector observed ABF welder Rick Clayborn ID# 2773 performing SMAW in the 2F horizontal position on pipe support and sole plates located at PP80.9-PP81.1 on crossbeam #12. The QA Inspector observed the QC Inspector Pat Swain monitor the progress and ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-F2200-2. The work is in progress and the QA Inspector noted that the work appeared to be in general conformance with the contract documents.

### 5. 11E 12E A1/A4/A5 VT, MT and UT

The QA Inspector performed a Magnetic Particle Test (MT) on A1, A4 and A5 outside of the OBG at 11E 12E A Deck. The QA Inspector tested 10% of the weld to verify the weld and testing by QC meet the requirements of the contract documents. The QA Inspector noted that the work appeared to be free of defects and was found to be acceptable and in general conformance with the contract documents. Upon completion of the MT, the QA Inspector performed Ultrasonic Testing utilizing a G.E./Krautkramer USN 60. The QA Inspector also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination. Upon completion of the testing, it was noted by the QA Inspector that no indications were present and the work was found to be acceptable.

#### **Summary of Conversations:**

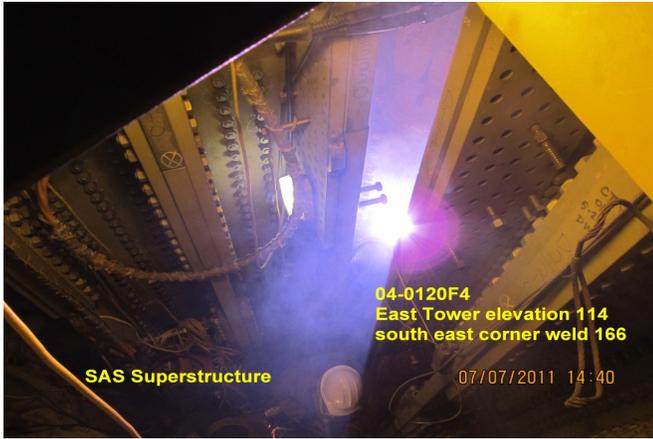
At the beginning the shift the QA Inspector met with QC Inspector Pat Swain and discussed the welders assignments and locations for the shift to include pending issues, ongoing work and required testing.

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## 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:** Frey,Doug

Quality Assurance Inspector

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**Reviewed By:** Levell,Bill

QA Reviewer