

**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-025115**Date Inspected:** 12-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:** William Sherwood**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:** 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 PP88 E4 Lifting Lug Holes #2 and 4
2. 11E 12E B
3. 10E 11E E
4. 11E 12E C2/E1
5. Tower West Shaft Splice #3 Elevation 114 meters
6. PP80.9-PP81.1 Crossbeam #12

1. 9E PP88 E4 Lifting Lug 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 PP88 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 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 is in progress and the QA Inspector noted that the work appeared to be in general conformance with the contract documents.

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### 2. 11E 12E B

The QA Inspector randomly observed ABF welder Wen Han Yu ID#6317 performing SMAW in the 3G vertical position outside of the OBG on “B” at 11E 12E. The QA Inspector observed the QC Inspector Fred Von Hoff as being present in order to 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.

### 3. 10E 11E E

The QA Inspector randomly observed ABF welding operators James Zhen ID#6001 and Jin Pei Wang ID#7299 performing Flux Core Arc Welding w/gas (FCAW-G) operations in the 3G vertical position on face E on the outside of the OBG. The QA Inspector observed the QC Inspector Fred Von Hoff as being present in order to monitor the progress and ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-3042B-1. The QA Inspector noted that the work was completed on this date and appeared to be in general conformance with the contract documents.

### 4. 11E 12E C1/E2

The QA Inspector randomly monitored ABF welders Wai Kitlai ID#2953 performing SMAW at C1 in the 3G vertical position and Hua Qiang Hwang ID#2930 performing FCAW at E2 in the 3G vertical position inside of the OBG. The QA Inspector observed the QC Inspector Pat Swain as being present in order to monitor the progress and ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-3042A-1 for the FCAW and ABF-WPS-D15-1040B Rev. 1 for the SMAW. The work progressed throughout the QA Inspector’s shift. The QA Inspector noted that the work was in progress and appeared to be in general conformance with the contract documents.

### 5. Tower West Shaft Splice #3 Elevation 114 meters

The QA Inspector observed ABF welder Salvador Sandavol ID#2202 continuing to perform production welding on the upper half of the upper splice plate #166 using the self-shielded Flux Cored Arc Welding (FCAW) process with 1.8mm diameter E71T-8 wire electrode at the Northwest corner. 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 QA Inspector observed the QC Inspector monitor the progress and ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-F2200-2. 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.

### 6. PP80.9-PP81.1 Crossbeam #12

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The QA Inspector observed the QC Inspector identified as Pat Swain perform Magnetic Particle Testing of 6mm fillet welds on eight (8) #5 pipe supports and nine (9) sole plates. The QC Inspector tested 25% of the weld to verify that the work did 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.

## Summary of Conversations:

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



## 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

**Reviewed By:** Levell,Bill

QA Reviewer