

**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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026593**Date Inspected:** 27-Oct-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:** Job Site**CWI Name:** Fred Von Hoff**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:** OBG Sections**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.

**Orthotropic Bridge Girder (OBG) Sections:**

13E/14E – SPCM weld joint A-2.2 thru A-5: This QA Inspector observed prior to the start of welding this date that welding flux was being taken from the flux oven (previously baked at a temperature greater than 550°F for a time greater than 2 hours) located on the East bound side of the bridge and placed into an empty flux holding container at a temperature greater than 225°F adjacent to the area where welding was to be performed. This QA Inspector observed the welding flux was transported in clean metal buckets. This QA Inspector randomly observed QC Inspector Fred Von Hoff verify the preheat temperature as greater than 150°F prior to the start of and periodically during welding this date. This QA Inspector observed ABF welding personnel setting to begin Submerged Arc Welding (SAW) at the following locations; ABF welding personnel James Zhen (#6001) 558 amperes and 33.3 volts at a travel speed of 382 mm per minute to produce a heat input value of 2.92 Kj per mm. and Todd Jackson (#4639) – 560 amperes and 33 volts at a travel speed of 381 mm per minute to produce a heat input value of 2.85 Kj per mm. This QA Inspector observed flux being taken from the heated flux oven and placed into a flux holding container adjacent to welding several times this date. This QA Inspector used an electronic temperature gauge to verify the flux temperature was greater than 225°F as it was taken from the holding contains. The welding observed appeared to comply with ABF-WPS-D15-4042B-1 being used by the QC Inspector. This QA Inspector

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observed that shortly after welding had started ABF Welding Supervisor Danny Ieraci (#3232) took the place of ABF welding personnel Todd Jackson (#4639). QC Inspector Fred Von Hoff verified the amperage, voltage and travel speed did not change after the change in welding personnel. This QA Inspector observed ABF Welding Supervisor Danny Ieraci (#3232) and ABF welding personnel Todd Jackson switched places later in the shift and that QC Inspector Fred Von Hoff verified the parameters did not change. This QA Inspector observed the SAW continued and the welding at this location was completed this shift.

11E-PP104-E3 Lifting Lug Hole (LLH) # 2: This QA Inspector observed ABF welding personnel Fred Kaddu (# 2188) had excavated a defect for repair welding at this location. This QA Inspector randomly observed QC Inspector Pat Swain perform a visual and Magnetic Particle Testing (MT) on the excavation area at Y-230 which had a length of 75 mm, width of 20 mm and a depth of 10 mm. This QA Inspector observed the area was preheated prior to welding and QC Inspector Pat Swain verify the following parameters; 130 amperes using a 3.2 mm diameter E7018H4R electrode. The welding observed by this QA Inspector appeared to comply with the Welding Procedure Specification (WPS), ABF-WPS-D15-1001-Repair, being used by the QC Inspector. This QA Inspector observed the repair welding at this location was completed this shift.

This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

### 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 above 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