

**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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016247**Date Inspected:** 16-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See below**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:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified 1E/2E, 2E/3E, 4E/5E and the following observations were made:

**4E/5E-C1/C2**

The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector Jesse Cayabyab begin performing ultrasonic testing on the above identified weld joint. The QA Inspector noted the QC Inspector located a rejectable Indication during the QA Inspectors shift. The QA Inspector randomly observed the QC Inspector performing the testing for the remainder of the shift.

**1E/2E-A-LS-4, 5, 6**

Upon the arrival of the QA Inspector it was observed the above identified weld joints were completed. The QA Inspector noted the 48 NDT hold had expired over the weekend and the above identified weld joints were ready for the QC final ultrasonic testing (UT). The QA Inspector performed a random visual inspection of the completed weld joints and noted they appeared to be in general compliance with the contract requirements visually (see summary of conversation with QC John Pagliero).

**1E/2E-A-LS-1**

Upon the arrival of the QA Inspector at the above identified location, the QA Inspector randomly observed the ABF welder James Zhen preparing to begin the shielded metal arc welding (SMAW) butter pass. The QA Inspector noted no welding had been performed until 0840. The QA Inspector noted only grinding and blending

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was performed until 0840 in the shift. The QA Inspector randomly observed the ABF welder preheat the material to 200°F utilizing a rosebud torch. The QA Inspector noted the Smith Emery (SE) Quality Control (QC) Inspector John Pagliero was on site monitoring the in process preheats and welding parameters of approved welding procedure identified as ABF-WPS-D1.5-1012-3. The QA Inspector performed a random visual inspection of the fit up of the above identified stiffener plates and noted the root opening exceeded 11mm in some locations. The QA Inspector noted weld joint restoration by buttering would be required to restore the weld joint to the original joint configuration with a maximum allowable root gap of 7mm. The QA Inspector noted the ABF welder had previously placed a piece of ceramic bar stock held in place with tape opposite the side of the weld joint receiving the buttering. The QA Inspector randomly observed the ABF welder remove the E9018 1/8" electrodes from the rod container at 0845. The QA Inspector noted the maximum exposure time for the above identified electrodes is on hour. The QA Inspector randomly observed the ABF welder continue the SMAW weld build up or butter pass on the above identified weld joint. The QA Inspector noted the SMAW parameters were 130 amps and appeared to be in general compliance with the above identified WPS. The QA Inspector noted the ABF welder spent the remainder of the shift performing the SMAW weld building or buttering of the above identified weld joint.

2E/3E-A-LS-3

Upon the arrival of the QA Inspector at the above identified location, the QA Inspector randomly observed the ABF welder Xiao Jian Wan preparing to begin the SMAW butter pass. The QA Inspector randomly observed the ABF welder preheat the material to 200°F utilizing a rosebud torch. The QA Inspector noted the SE QC Inspector John Pagliero was on site monitoring the in process preheats and welding parameters of approved welding procedure identified as ABF-WPS-D1.5-1012-3. The QA Inspector performed a random visual inspection of the fit up of the above identified stiffener plates and noted the root opening had been closed significantly but still appeared to be 10mm-12mm in some areas. The QA Inspector randomly observed and noted additional welding or weld joint restoration would be required. The QA Inspector noted weld joint restoration by buttering would be required to restore the weld joint to the original joint configuration with a maximum allowable root of 7mm. The QA Inspector noted the ABF welder had previously placed a piece of ceramic bar stock held in place with tape opposite the side of the weld joint receiving the buttering. The QA Inspector randomly observed the ABF welder remove the E9018 1/8" electrodes from the rod container at 0730. The QA Inspector noted the maximum exposure time for the above identified electrodes is on hour. The QA Inspector randomly observed the ABF welder continue the SMAW weld build up or butter pass on the above identified weld joint. The QA Inspector noted the SMAW parameters were 125 amps and appeared to be in general compliance with the above identified WPS. The QA Inspector noted the ABF welder spent the remainder of the shift performing the SMAW weld building or buttering of the above identified weld joint.

### Summary of Conversations:

The QA Inspector was informed by the QC Inspector John Pagliero, that he will perform UT of the 1E/2E-A-LS-4, 5, 6 stiffeners today. The QC Inspector informed the QA inspector he will inform the Caltrans QA Inspectors when he has officially completed the UT.

The QA Inspectors Rick Bettencourt, Robert Mertz and QA Task Lead Inspector Bill Levell were present with the SE QC Inspector Jesse Cayabyab. The QC Inspector informed the QA Inspectors the SE QC Inspectors perform UT from both sides of the weld joint ie... face A and face B. The QC Inspector went on to inform the QA Inspector, that is the reason no NDT had been turned over to the QA Inspectors in a couple of weeks.

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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 Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Bettencourt,Rick	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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