

**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-016061**Date Inspected:** 05-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-A-S3/S4 and the following observations were made:

**1E/2E-A-S3**

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 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 12mm (pictured below). 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 0800. The QA Inspector noted the maximum exposure time for the above identified electrodes is on hour. The QA Inspector informed the QC Inspector of the maximum exposure time (see summary of conversation). The QA Inspector randomly observed the ABF welder begin the SMAW weld build up or butter pass on the above identified weld joint. The QA Inspector noted the SMAW parameters were 120 amps and appeared to be in general compliance with the above identified WPS. The QA Inspector had several conversations regarding the preheat and heat treat

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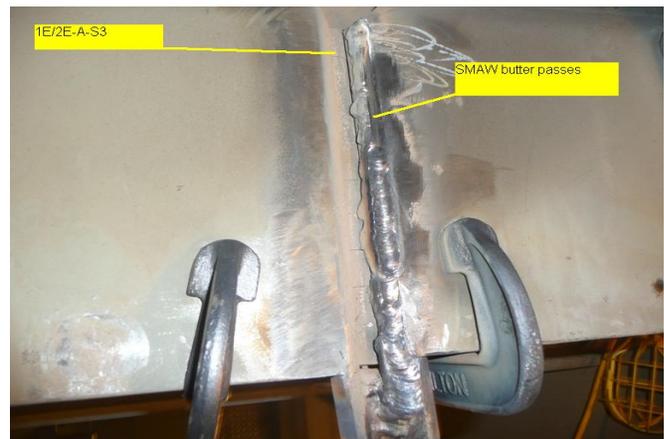
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requirements (see summary of conversation). The QA Inspector noted the minimum required temperature of 200°F was maintained through out the buttering process identified above. The QA Inspector noted the ABF welder continued the buttering through out the duration of the QA Inspectors shift.

1E/2E-A-S4

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 root 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 appeared to be 4mm wide and was in general compliance of the approved WPS. The QA Inspector randomly observed the ABF welder remove the E9018 1/8” electrodes from the rod container at 0900. The QA Inspector noted the maximum exposure time for the above identified electrodes is on hour. The QA Inspector informed the QC Inspector of the maximum exposure time (see summary of conversation). The QA Inspector randomly observed the ABF welder begin the SMAW root pass on the above identified weld joint. The QA Inspector noted the SMAW parameters were 124 amps and appeared to be in general compliance with the above identified WPS. The QA Inspector noted the ABF welder continued the root/fill pass through out the duration of the QA Inspectors shift.



### Summary of Conversations:

The QA Inspector asked the SE QC Inspector John Pagliero if he was aware of the maximum allowed exposure time for the E9018 electrodes. The QC Inspector informed the QA inspector he was aware of the exposure time and the ABF welder was only removing what would be consumed in the one hour time period, and going back for additional electrodes on an as needed basis.

The QA Inspector was asked the QC Inspector Mike Johnson and John Pagliero if they were aware of the special provisions requirements for “field welding” note “C”. The QA Inspector informed the QC Inspectors the heat treat requirements for the given thickness of the material and the preheat, did require the 200°F temperature to be held continuous through out the duration of welding and three hours after welding. The QC inspector Mike Johnson informed the QA Inspector “that note in the special provisions does not apply to the “A” stiffeners, and Mr. Jim Bowers instructed all of the SE QC of that interpretation”. In addition the QC Inspector said “I don’t care what you QA Inspectors think Mr. Bowers informed us (QC Inspectors) that the preheat requirements of the special

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provisions do not apply” We are going to treat the preheat per the AWS D1.5 code and not the Caltrans Special Provisions.

## 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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