

**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-022208**Date Inspected:** 31-Mar-2011**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 as 7W-pp52-W3-2, 7E-pp55-E4-4, 5E-pp31-E4-2&4 W2 Barrier Line and the following observations were made:

**7W-pp52-W3-2**

The QA Inspector randomly observed the ABF welder identified as Darcel Jackson and ABF helper begin fitting up the lifting lug deck insert identified above. The QA Inspector noted the direction of rolling was stamped with a low stress stamp in the center of the insert plate, so no grinding or welding would mask or deface the identifying marking. The QA Inspector randomly observed the bevel angle to be 45°. The QA Inspector noted the surface of the bevel appeared to be a machined surface with bright shiny metal. The QA Inspector noted the ABF welder was utilizing a prefabricated round copper backing plate held in place with magnets. The QA Inspector noted the fit up was completed on the QA Inspectors shift and appeared to be in general compliance with the contract documents. The QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector randomly observed the SMAW parameters were 5/32" E7018 low hydrogen electrodes with 225 Amps for the root pass. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. After the SMAW root pass was completed the QA Inspector randomly observed the welder switch to 3/16" E7018 low hydrogen electrodes with 275Amps and used through the completion of the weld. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on the QA Inspectors shift. It was noted the ABF welder did not remove the weld reinforcement of the QA Inspectors shift.

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7E-pp55-E4-4

The QA Inspector randomly observed the ABF welder identified as Jason Collins and ABF helper begin fitting up the lifting lug deck insert identified above. The QA Inspector noted the direction of rolling was stamped with a low stress stamp in the center of the insert plate, so no grinding or welding would mask or deface the identifying marking. The QA Inspector randomly observed the bevel angle to be 45°. The QA Inspector noted the surface of the bevel appeared to be a machined surface with bright shiny metal. The QA Inspector noted the ABF welder was utilizing a prefabricated round copper backing plate held in place with magnets. The QA Inspector noted the fit up was completed on the QA Inspectors shift and appeared to be in general compliance with the contract documents. The QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector randomly observed the SMAW parameters were 5/32" E7018 low hydrogen electrodes with 225 Amps for the root pass. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. After the SMAW root pass was completed the QA Inspector randomly observed the welder switch to 3/16" E7018 low hydrogen electrodes with 275Amps and used through the completion of the weld. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on the QA Inspectors shift. It was noted the ABF welder did not remove the weld reinforcement of the QA Inspectors shift.

5E-pp31-E4-2&4

The QA Inspector randomly observed the ABF welder Salvador Sandoval performing carbon arc gouging and back grinding of the above identified weld joints. The QA inspector randomly observed the ABF welder grind the back gouged weld joints to bright metal. The QA Inspector randomly observed the back gouged weld joints and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Steve McConnell form magnetic particle testing of the back gouged weld joint and noted no relevant indications were present at the time of the testing. The QA Inspector randomly observed the ABF welder continue welding the in process lift lug hole restoration of the lifting lug hole identified as #1. The QA Inspector noted the weld joint was approximately 50% complete at the time of the SMAW 4G back weld. The QA Inspector randomly observed the ABF welder continue the SMAW cover pass. The QA Inspector noted the ABF welder completed #1 and moved over to #3. The QA Inspector randomly observed the SMAW parameters were 1/8" E7018 low hydrogen electrodes with 119 Amps. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on this date. The QA Inspector noted the weld reinforcement was ground flush on the QA Inspectors shift. The QA Inspector observed the grinding did appear to comply with the contract requirements for the lifting lug hole identified as #1 & #3.

W2 Barrier Line

Barrier segments identified as W2-SB1 and SB1G were receiving shielded metal arc welding (SMAW) seal welds between base plates in the bottom of the barrier segments. The QA Inspector reviewed and the contractors approved drawing identified as ABF FW261-02C. The QA Inspector noted the weld locations and details were identified on the above identified drawing. The QA Inspector noted the barrier rail segments were turned on their sides to allow the ABF welder Rich Garcia to perform the SMAW seal weld on the bottom of the base plates. The QA Inspector randomly observed the SE QC Inspector Steve McConnell was present monitoring and recording the in process welding parameters. The QA Inspector randomly observed the ABF welder to be utilizing 1/8" E7018 low hydrogen electrodes with 100 Amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1180-seal. The QA Inspector randomly observed and noted an ABF apprentice helper was performing grinding tasks and removing the weld reinforcement flush with the base material.

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**Summary of Conversations:**

The SE QC Inspector Steve McConnell informed the QA Inspector the after the seal welding of the base plates are complete and ground flush, the barrier segments will be flipped over upright and seal welded from the top side of the base plate

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