

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-017532**Date Inspected:** 21-Oct-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 as hole restoration 3E-pp23.5-E2-SE, 1E-pp9.5-E3-1 and longitudinal stiffeners 1E-pp10.5-E5-LS-E (485 HPS), 2E-pp17.5-E2-LS-W (485 HPS) and the following observations were made:

3E-pp23.5-E2-SE

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder Wai Kitlai setting up to continue performing the shielded metal arc welding SMAW fill passes. The QA Inspector noted the weld joint appeared to be approximately 50% complete upon the arrival of the QA Inspector. The QA Inspector randomly observed the previously completed fill passes and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Patrick Swain was on site monitoring the in process welding. The QA Inspector randomly observed the SMAW parameters were 130 Amps while utilizing 1/8" E7018 low hydrogen electrodes. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1030. The QA Inspector randomly observed the ABF welder continue to perform the SMAW fill passes at the above identified location. The QA Inspector noted the weld joint was not completed on this date.

1E-pp10.5-E5-LS-E (485 HPS)

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder identified as Hua Qinag Hwang begin setting up to perform the SMAW root pass. The QA Inspector randomly verified the bevel angles and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed

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the ABF welder had previously installed ceramic backing bar to the backside of the weld joint and held in place with adhesive. The QA Inspector performed a random visual inspection of the fit up and noted the root opening, bevel angle and planar alignment of the complete joint penetration (CJP) groove weld appeared to meet the general requirements of the contract documents. The QA Inspector noted the 1E-pp10.5-E5-LS-W was completed at the end of the previous day including the 3 hour post weld heat treatment.

The QA Inspector randomly observed the ABF welder had previously set up the induction preheating machine and blankets to side of the stiffener opposite the welding. The QA Inspector noted the material must maintain the minimum required preheat of 200°F through out the duration of welding. The QA Inspector randomly observed the ABF welder preheat the area to approximately 230°F prior to performing any SMAW. After the minimum required preheat had been achieved, the QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector noted the SE QC Inspector John Pagliero was on site to monitor and record the in process production welding at the above identified location. The QA Inspector randomly observed the SMAW parameters to be approximately 123 Amps with 1/8" E9018 low hydrogen electrodes. The QA Inspector randomly observed the in process welding parameters and dimensional tolerances appeared to be in general compliance with the approved welding procedure identified as ABF-WPS-D1.5-1012-3. The QA Inspector noted the ABF welder did not complete the SMAW on the QA Inspectors shift.

2E-pp17.5-E2-LS-W (485 HPS)

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder identified as Xiao Jian Wan begin setting up to perform the SMAW root pass. The QA Inspector randomly verified the bevel angles and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the ABF welder had previously installed ceramic backing bar to the backside of the weld joint and held in place with adhesive. The QA Inspector performed a random visual inspection of the fit up and noted the root opening, bevel angle and planar alignment of the complete joint penetration (CJP) groove weld appeared to meet the general requirements of the contract documents. The QA Inspector noted the 2E-pp17.5-E2-LS-E was completed at the end of the previous day including the 3 hour post weld heat treatment.

The QA Inspector randomly observed the ABF welder had previously set up the induction preheating machine and blankets to side of the stiffener opposite the welding. The QA Inspector noted the material must maintain the minimum required preheat of 200°F through out the duration of welding. The QA Inspector randomly observed the ABF welder preheat the area to approximately 250°F prior to performing any SMAW. After the minimum required preheat had been achieved, the QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector noted the SE QC Inspector John Pagliero was on site to monitor and record the in process production welding at the above identified location. The QA Inspector randomly observed the SMAW parameters to be approximately 135 Amps with 1/8" E9018 low hydrogen electrodes. The QA Inspector randomly observed the in process welding parameters and dimensional tolerances appeared to be in general compliance with the approved welding procedure identified as ABF-WPS-D1.5-1012-3. The QA Inspector noted the ABF welder did not complete the SMAW on the QA Inspectors shift.

1E-pp9.5-E3-1

The QA Inspector randomly observed the ABF welder identified as Eric Sharp and ABF helper begin fitting up the lifting lug deck insert identified above. The QA Inspector noted the deck insert is the first insert to be installed and welded with the new machined insert plates that were fabricated by XKT Engineering. The QA Inspector noted the

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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 with a channel machined in root opening where the welding will take place. The QA Inspector noted the fit up was not completed on the QA Inspectors shift. The QA Inspector noted no welding was performed on the QA Inspectors shift.

Summary of Conversations:

As noted above.

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.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
