

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-016813**Date Inspected:** 15-Sep-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, Access Hole restoration and 6E/7E-E the following observations were made:

Deck Plate Access Hole 1E South

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder Fred Kaddu setting up to continue performing the shielded metal arc welding (SMAW) back weld. The QA Inspector previously performed random visual testing and dimensional verification of the bevel angle and root opening of the above identified fit up. The QA Inspector randomly observed the fit up appeared to be in general compliance with ABF-WPS-D1.5-1030. Upon the arrival of the QA inspector, it was noted the SMAW 4G back weld appeared to be approximately 80% complete. The QA Inspector randomly observed the SE QC Inspector John Pagliero was on site monitoring the in process welding. The QA Inspector randomly observed the SMAW parameter were 125 Amps while utilizing 1/8" E7018 low hydrogen electrodes. The QA Inspector noted the SMAW parameters appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the ABF welder completed the 4G back weld at approximately 0830. The QA Inspector noted the ABF welder spent the remainder of the shift back grinding the weld joint from the opposite side of the back weld.

2E-pp22-E3-4

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder identified as Wai Kitlai begin setting up to perform the SMAW root pass. The QA Inspector randomly observed the ABF welder perform some base metal grinding of the top deck plate insert prior to commencing the SMAW root pass. The QA Inspector

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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 to the underside of the top deck plate and held in place with adhesive. The QA Inspector randomly observed the ABF welder had set the circular deck insert onto the ceramic backing and held in place utilizing magnets. 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 randomly observed the ABF welder preheat the area to approximately 100°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 Steve McConnell 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 130 Amps with 5/32" E7018 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-D1.5-1050-A. The QA Inspector noted the ABF welder did not complete the SMAW on the QA Inspectors shift.

2E-pp22-E4-3

The QA Inspector randomly observed the ABF welder Yao Xin Liang begin performing SMAW of the above identified deck insert hole. The QA Inspector noted the Same QC Inspector and the same welding process was performed as described above at 2E-pp15-E3-1. The QA Inspector noted 2E-pp15-E4-1 deck plate was not completed on this date.

1E-pp11-E3-3

The QA Inspector randomly observed the ABF welder identified as Jin Pei Wang performing the SMAW back weld for the above identified weld joint. The QA Inspector noted the base metal and the weld joint were preheated to approximately 150°F and back welding was commenced. The QA Inspector randomly observed the ABF welder to be utilizing 1/8" E7208 low hydrogen electrodes with 130 Amps. The QA Inspector noted the SMAW back weld was approximately 60% completed on the QA Inspector. The QA Inspector randomly observed the weld was not completed on the QA Inspectors shift.

6E/7E-E1/E2

The QA Inspector randomly observed the ABF welder Song Tao Hunag had previously started the induction heating blankets on the inside of OBG to ensure the minimum required preheat of 150°F was achieved prior to welding. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector observed the ABF welder to be utilizing the semi automated flux cored arc welding (FCAW) for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Tony Sherwood set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042-B-1 The QA Inspector randomly observed the FCAW parameters were 235 Amps, 24.3 Volts and a travel speed of 295mm/min. After the fit up was accepted by the QC Inspector and verified by the QA Inspector the root pass was started with the above identified FCAW parameters. The QA Inspector noted the ABF welder continued welding the FCAW root/fill passes for the remainder of the shift. The QA Inspector noted the fit up in the areas being welded were in compliance with the

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contract requirements. It was noted and observed the top 90mm of the weld segment designed E1 had unacceptable planar misalignment. The QA Inspector and the SE QC Inspector performed dimensional measurements of the area. The QA Inspector noted no production welding was being performed in that area 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
