

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-016111**Date Inspected:** 06-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 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 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 130 amps and appeared to be in general compliance with the above identified WPS.

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1E/2E-A-S4

Upon the arrival of the QA Inspector it was observed the above identified weld joint was completed. The QA Inspector noted no grinding had been completed at the time of QA Inspectors visit. The QA Inspector noted the ABF welder Xiao Jian Wan was performing the grinding tasks in the am.

1E/2E-A-S5

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 1000. 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 125 amps and appeared to be in general compliance with the above identified WPS. The QA Inspector noted the ABF welder continued the root pass through out the duration of the QA Inspectors shift.

5E/6E-B

The QA Inspector randomly observed the ABF welder identified as Hua Qiang Huang was performing grinding tasks of the back weld for the above identified weld joint. The QA Inspector noted the ABF welder was grinding and blending areas previously indicated with a distinguishing marking by a SE QC Inspector. The QA Inspector noted no welding was performed at the above identified location.

4E/5E-E1

The QA Inspector randomly observed the ABF welder Rory Hogan and Jeremy Doleman 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 flux cored arc welding (FCAW) manually for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Jim Cunningham set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042A The QA Inspector randomly observed the FCAW parameters were 247 Amps, 23.9 Volts and a travel speed of 320mm/min. The QA Inspector randomly observed the ABF welder identified above start the FCAW back weld on the top 2000mm of the weld joint in the am. The QA Inspector noted the ABF welder spent the remainder of the QA Inspectors shift performing the FCAW fill passes. The QA Inspector randomly and periodically observed the welding at the above identified location. It was noted by the QA Inspector the ABF welder did not complete the FCAW on the QA Inspectors shift.

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Summary of Conversations:

The QA Inspector asked the QC Inspector Mike Johnson if there was any Non Destructive Testing (NDT) ready for QA verifications. Mr. Johnson informed the QA Inspector no NDT was available or ready for any QA verifications. The QA verified the statement by Mike Johnson by asking the QC Inspector Steve McConnell if he was aware of any NDT ready for QA verification, Mr. McConnell informed the QA Inspector there was not.

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