

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026113**Date Inspected:** 17-Aug-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Tony Sherwood**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:** OBG Sections**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Orthotropic Bridge Girder (OBG) Sections: 11W/12W-LS-1 thru LS-6

LS-1 : This QA Inspector randomly observed ABF welding personnel Hua Qiang Hwang (#2930) working on the fit up of this weld joint. This QA Inspector randomly observed as QC Inspector Tony Sherwood performed and accepted the visual inspection of the fit up of this weld joint. This QA Inspector performed a random verification of the fit up and observed the groove angle, root opening and land face appeared to comply with the contract requirements. This QA Inspector observed the electrical induction heating equipment was being used for preheating. This QA Inspector used an electronic gauge to verify the preheat temperature was greater than 200°F prior to the start of Shielded Metal Arc Welding (SMAW). This QA Inspector observed as QC Inspector Tony Sherwood monitored the welding parameters and observed them to 130 amperes. This QA Inspector verified a 3.2 mm diameter E9018M-H4R electrode was being used. At approximately 1415 hours this date this QA Inspector observed the 3-hour post weld heat had started and that ABF welding personnel Hua Qiang Hwang (#2930) was starting the back gouging process using a power grinder. This QA Inspector randomly observed QC Inspector Tony Sherwood periodically monitoring the work at this location and confirmed the post weld heating was controlled by the timer setting on the induction heater power unit. The work observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1012-3.

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LS-2 : This QA Inspector observed ABF welding personnel Hua Qiang Hwang (#2930) using a grinder to remove excess weld reinforcement, run off tabs and to contour both faces of the completed weld at this location. This QA Inspector was present and was informed the preliminary visual inspection had been accepted by QC Inspector Tony Sherwood. QC Inspector Tony Sherwood informed this QA Inspector the visual inspection was only a preliminary inspection because it still within the 24 hour waiting period after welding.

LS-3: This QA Inspector observed that work was not being performed at this location this date.

LS-4: This QA Inspector randomly observed ABF welding personnel Xiao Jian Wan (#9677) using the SMAW process in the vertical (3G) position on the outboard side of the weld face at this location this date. This QA Inspector verified the preheat temperature was greater than 200°F using an electronic temperature gauge. QC Inspector Tony Sherwood informed this QA Inspector the welding parameters were 130 amperes. This QA Inspector verified a 3.2 mm diameter E9018M-H4R electrode was being used. This QA Inspector observed welding appeared to be completed at approximately 0830 hours this date and that ABF welding personnel Xiao Jian Wan (#9677) had started the post weld heat treatment as required by the contract.

LS-5: This QA Inspector observed as QC Inspector Tony Sherwood performed a visual inspection of the fit up and marked the bottom 100 mm of the weld joint for exceeding the maximum allowed offset. QC Inspector Tony Sherwood informed ABF welding personnel Xiao Jian Wan (#9677) of the fit up requirements and instructed him to inform him when the fit up was ready for re-inspection. This QA Inspector performed a random visual verification and concurred with QC Inspector Tony Sherwood. This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) using a power grinder to remove excess material, but observed that a re-inspection of the fit up was not requested and that ABF welding personnel Xiao Jian Wan (#9677) had elected to start work on the weld joint listed below.

LS-6: This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) fitting up this weld joint. This QA Inspector observed as QC Inspector Tony Sherwood performed a visual inspection of the fit up at this location. QC Inspector Tony Sherwood informed this QA Inspector he had accepted the fit up. This QA Inspector performed a random visual verification of the fit up and observed the work appeared to comply with ABF-WPS-D15-1020-3. This QA Inspector observed the induction heating equipment was used to preheat prior to welding and that ABF welding personnel Xiao Jian Wan (#9677) was using the SMAW process on the outboard side to begin production welding. This QA Inspector observed the welding appeared to be completed at approximately 1430 hours and that the post weld heat treatment had been started at this time. QC Inspector Tony Sherwood confirmed the induction heating equipment timer had been set to turn off in 3-hours. This QA Inspector randomly observed the timer was set for 3-hours.

In general this QA Inspector randomly observed QC Inspector Tony Sherwood periodically monitoring the welding/work and each of the locations listed above. This QA Inspector observed a rod oven was located in the work area, marked as containing “9018” and verified the oven was on and heating the electrodes. See photos below of work in progress at the locations above.

Orthotropic Bridge Girder (OBG) Sections:

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11W/12W – D: This QA Inspector randomly observed ABF welding personnel Todd Jackson (#4639) using a plasma torch to remove the back strap from this weld joint. This QA Inspector also observed that weld joint “C” at this location had been back gouged but not ground.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable conversations.



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.

Inspected By: Hager,Craig

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer