

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026581**Date Inspected:** 25-Oct-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Pat Swain**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:

13E/14E weld joint D-2: This QA Inspector randomly observed as QC Inspector Pat Swain verified the preheat temperature to be greater than 200°F prior to the start of welding this date with an electronic temperature gauge. This QA Inspector randomly observed as the Submerged Arc Welding (SAW) process began QC Inspector Pat Swain verified the following parameters; 580 amperes and 32.3 volts at a travel speed of 430 mm per minute to produce a heat input value of 2.61 Kj per mm. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1 used by QC Inspector Pat Swain. This QA Inspector observed after the SAW progressed ABF welding personnel Wai Kitlai (#2953) started using the Flux Cored Arc Welding process at the end of D-2 (cross beam side) where the SAW equipment did not have access. This QA Inspector observed QC Inspector Pat Swain verify the following parameters; 265 amperes and 23 volts at a travel speed of 373 mm to produce a heat input of 0.98 Kj per mm. The welding observed appeared to comply with ABF-WPS-3040A-1 being used by QA Inspector Pat Swain. This QA Inspector observed after the SAW was completed from approximately Y-1700 to Y-7000 ABF welding personnel Xiao Jian Wan (#9677) started using the FCAW process at Y-0 to Y-1700. This QA Inspector observed QC Inspector Pat Swain verify the following parameters; 230 amperes and 23.1 volts at a travel speed of 320 mm per minute to produce a heat input value of 0.

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99 KJ per mm. The welding observed appeared to comply with ABF-WPS-3040A-1 being used by QA Inspector Pat Swain. This QA Inspector observed and was informed by QC Inspector Pat Swain of several time consuming delays occurring during welding this date, such as the loss of electrical power several times and the need to relocate various stiffeners to gain access to weld. The FCAW welding at the ends of the SAW were not completed this date.

13E/14E weld joint A-2.2 thru A-5: This QA Inspector observed the continuous tack welding with the FCAW process had been completed and that ABF welding personnel James Zhen (#6001) and Todd Jackson (#4639) were setting up the Submerged Arc Welding (SAW) equipment. This QA Inspector was informed by QC Inspector John Pagliero that he had performed a visual inspection of the tack welding and marked several location of excessive porosity for grinding prior to the start of SAW, but that it had not been performed as of this time. QC Inspector John Pagliero pointed out the locations to this QA Inspector, ABF Welding Foreman Danny Ieraci (#3232) was present and observed this QA Inspector taking a picture of the porosity, see photo below. ABF Welding Foreman Danny Ieraci (#3232) stated he was aware of the porosity and instructed one of the ABF welding helpers to grind the areas prior to welding. This QA Inspector was informed later by QC Inspector John Pagliero that the areas had been ground and the porosity had been removed. This QA Inspector randomly observed QC Inspector John Pagliero verify the preheat temperature was greater than 150°F and the following welding parameters at A-4 to A-5 for ABF welding personnel Todd Jackson (#4639); 560 amperes and 33 volts at a travel speed of 555 mm per minute to produce a heat input value of 1.99 KJ per mm. The welding observed appeared to comply with ABF-WPS-D15-4042B-1 being used by the QC Inspector. This QA Inspector randomly observed QC Inspector Fred Von Hoff verify the preheat temperature was greater than 150°F and the following welding parameters at A-2.2 to A-4 for ABF welding personnel James Zhen (#6001): 570 amperes and 33 volts at a travel speed of 559 mm per minute to produce a heat input value of 2.01 KJ per mm. The welding observed appeared to comply with ABF-WPS-D15-4042B-1 being used by the QC Inspector. Towards the end of the shift this date this QA Inspector observed the SAW at these locations was intermittent and was informed by ABF Welding Supervisor Danny Ieraci (#3232) it was due to the loss of electrical power. ABF Welding Supervisor Danny Ieraci (#3232) informed this QA Inspector at approximately 1615 hours the welding was still intermittent and that he had stopped for the rest of the day to deal with the electrical issues. This QA Inspector observed welding had not been completed this date.

12E/13E Longitudinal Stiffeners 4, 5 and 6: This QA Inspector observed the planar offset of these longitudinal stiffeners appeared to exceed the contract requirements. While this QA Inspector was measuring the planar offset QC Inspectors Bonifacio Daquinag Jr., Jesus Cayabyab and Fred Von Hoff arrived to measure the planar offset. This QA Inspector observed as the QC Inspectors measured and marked the offset on each of the stiffeners, see photo below. This QA Inspector compared the QC measurements to the measurements taken by this QA Inspector and observed they were basically the same. This QA Inspector also took a photo of the offset from the bottom, see below. This QA Inspector performed a random visual observation at 13E/14E. LS-1, LS-2 and LS-3 and observed the longitudinal stiffeners at this location appeared to have a minimal amount (2-3 mm) of planar offset. This QA Inspector notified lead QA Inspector Danny Reyes of the observation and issued a Non-Conformance Report (TL-15).

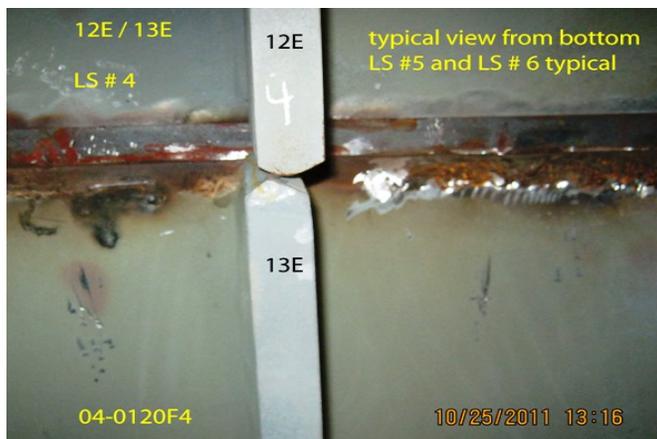
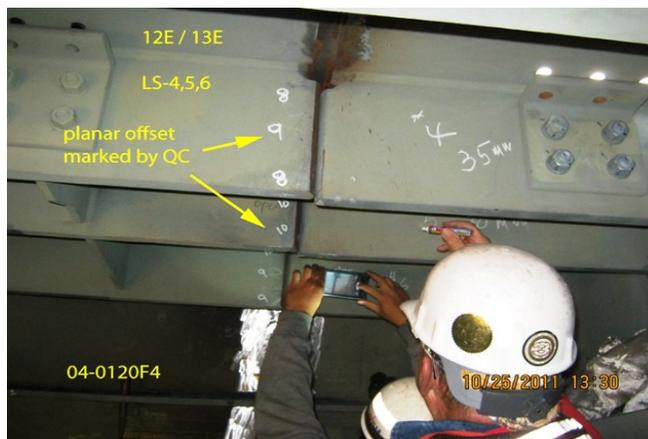
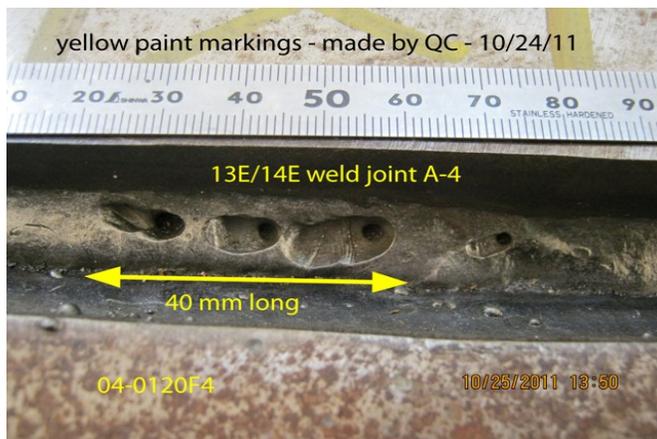
This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

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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 above 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
