

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-026719**Date Inspected:** 15-Nov-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:** Fred Von Hoff**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: The QC documents observed being used by this QA Inspector for the following weld joints appeared to be designated as Seismic Performance Critical Members (SPCM).

14E-PP125.2- E3.2 – Vent Hole: This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) working at this location. This QA Inspector observed the base metal was preheated with a hand held gas torch and verified by QC Inspector Fred Von Hoff to be at a temperature greater than 125°F, the minimum preheat temperature, using an electronic temperature gauge. This QA Inspector observed the Shielded Metal Arc Welding (SMAW) process was being used in the flat (1G) position to perform production welding. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 130 amperes using a 3.2 mm diameter electrode and 190 amperes using a 4.0 diameter electrode. The welding observed by this QA Inspector appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1050-CU being used by the QC Inspector. The top section of the weld appeared to be completed; back gouging and welding from below was not performed this shift.

14E-PP125.2-E3.7 Vent Hole: This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) moved to this location and started fitting up the infill plate. This QA Inspector observed QC Inspector Fred Von

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Hoff perform a preliminary fit up inspection measuring the planar offset; the inspection was preliminary because the infill plate was not tack welded to the deck at this time. This QA Inspector observed the base metal was preheated and the infill plate was tack welded. This QA Inspector observed QC Inspector Fred Von Hoff verify the fit up checking the planar offset and root opening. Prior to inserting the infill plate this QA Inspector observed QC Inspector Fred Von Hoff verify the bevel was an acceptable angle (45 degrees), the correct thickness (20 mm), the center of the infill plate punch marked and that it had been cleaned of any rust. This QA Inspector was informed the fit up had been accepted by QC Inspector Fred Von Hoff and performed a visual verification of the fit up. The work observed by this QA Inspector appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 125 amperes using a 3.2 mm diameter electrode. The welding observed this shift appeared to comply with ABF-WPS-D15-1050-CU. Welding on the top was not completed at this location this shift.

14E-PP126.7-E2.7 – This QA Inspector was informed by ABF welding personnel Rick Clayborn (#2773) and QC Inspector Bernard Docena the back gouging had been performed using the carbon arc process. QC Inspector Bernard Docena informed this QA Inspector he had performed and accepted the visual and Magnetic Particle Testing (MT) on the back gouged section of the weld. This QA Inspector performed a visual verification and the work appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Bernard Docena verify the following welding parameters; 138 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used in the overhead (4G) position from inside the OBG section. The welding observed appeared to comply with ABF-WPS-D15-1050-CU being used by the QC Inspector. This QA Inspector was informed by QC Inspector Bernard Docena that welding at this location was completed this shift.

14E-PP125.2-E4.2 –Vent Hole: This QA Inspector observed ABF welding personnel Todd Jackson (#3946) using the SMAW process for production welding at this location. This QA Inspector observed a hand held gas torch was used to preheat the base metal to a temperature greater than 125°, which was verified by this QA Inspector with an electronic temperature gauge. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 170 amperes using a 4.0 mm diameter electrode. This QA Inspector observed the welding in the flat (1G) position from the top deck outside the OBG section appeared to comply with ABF-WPS-D15-1050-CU. This QA Inspector observed the welding from the top deck appeared to be completed this shift.

14E-PP125.2-E5 – Vent Hole: This QA Inspector was informed by QC Inspector Fred Von Hoff that he had performed and accepted the fit up of the infill plate at this weld joint which was fit up by QBF welding personnel Todd Jackson (#4639). This QA Inspector performed a visual verification of the fit up and observed the work appeared to comply with the contract requirements. This QA Inspector observed a hand held gas torch was used to preheat the base metal and QC Inspector Fred Von Hoff verify the temperature was greater than the minimum preheat using an electronic temperature gauge. This QA observed QC Inspector Fred Von Hoff verify the following welding parameters for ABF welding personnel Todd Jackson (#4639); 128 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used and the welding appeared to comply with ABF-WPS-D15-1050-CU. The welding at this location this shift was not completed this shift.

14E-PP126.2-E2.8 – Vent Hole: This QA Inspector was informed by QC Inspector Bernard Docena back gouging was in process by ABF welding personnel Rick Clayborn (#2773). Upon completion of the back gouging and grinding this QA Inspector randomly observed QC Inspector Bernard Docena perform a visual and MT inspection

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on the back gouged section of the weld joint. QC Inspector Bernard Docena informed this QA Inspector he had accepted both inspections. This QA Inspector performed a visual verification and the work appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Bernard Docena verify the following welding parameters; 138 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used in the overhead (4G) position from inside the OBG section. The welding observed appeared to comply with ABF-WPS-D15-1050-CU being used by the QC Inspector. This QA Inspector was informed by QC Inspector Bernard Docena that welding at this location was completed this shift.

14E-PP126.7-E2.9 – Vent Hole: This QA Inspector observed ABF welding personnel Eric Sparks (#3040) was using the SMAW process for welding at this location. This QA Inspector was informed by QC Inspector Fred Von Hoff the base metal had been preheated to a temperature greater than the minimum temperature and of the following welding parameters; 185 amperes. This QA Inspector observed a 4.0 mm diameter E7018H4R electrode was being used. This QA Inspector ABF welding personnel Eric Sparks would periodically leave the immediate area and perform work at other locations on what appeared to be temporary structures. This QA Inspector was informed by QC Inspector Bernard Docena that ABF welding personnel Rick Clayborn (#2773) had back gouged the weld joint while ABF welding personnel Eric Sparks (#3040) was performing work at another location. This QA Inspector observed the weld joint appeared to be approximately 75% filled from the top side at this time. This QA Inspector informed QA Inspector Doug Frey of the pending inspection of the back gouged weld joint and was informed later by QA Inspector Doug Frey that he had observed QC Inspector Bernard Docena perform the visual and MT inspections and that he had performed and accepted the visual verification. This QA Inspector was informed that welding had been completed at approximately 1630 hours this shift at this location.

This QA Inspector randomly observed the welding personnel noted above periodically taking welding electrodes from a heated storage oven and place them in what appeared to be clean portable containers capable of keeping them warm and dry.

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.

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.

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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