

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026718**Date Inspected:** 14-Nov-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:** 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-PP125.7- E3.2 – Vent Hole: This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the Shielded Metal Arc Welding (SMAW) process in the flat (1G) position to perform production welding at this location. This QA Inspector randomly observed a hand held gas torch was used to preheat the base metal prior to the start of welding to a temperature greater than the minimum temperature of 125°F. This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the preheat temperature. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 123 amperes using a 3.2 mm diameter E7018H4R electrode. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 190 amperes using a 4.0 mm diameter E7018H4R electrode. This QA Inspector observed various welding personnel might switch between the 3.2 mm, 4.0 mm and 4.8 mm diameter electrodes depending upon weld location regarding root pass, fill and cover passes. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1050-CU. This QA Inspector observed welding was completed on the top side of the OBG section during the shift. .

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14E-PP126.7-E2.7 – Vent Hole: This QA Inspector observed ABF welding personnel Eric Sparks (#3040) using the SMAW process in the flat (1G) position to perform production welding at this location. This QA Inspector randomly observed a hand held gas torch was used to preheat the base metal prior to the start of welding to a temperature greater than the minimum temperature of 125°F. This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the preheat temperature. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 132 amperes using a 3.2 mm diameter E7018H4R electrode. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 195 amperes using a 4.0 mm diameter E7018H4R electrode. This QA Inspector observed various welding personnel may switch between the 3.2 mm, 4.0 mm and 4.8 mm diameter electrodes depending upon weld joint configuration largely depending upon root pass, fill and cover passes. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1050-CU. This QA Inspector observed welding appeared to be completed on the top side of the OBG section during the shift.

14E-PP126.7-E5 – Vent Hole: This QA Inspector observed ABF welding personnel Todd Jackson (#4639) using the SMAW process in the flat (1G) position to perform production welding at this location. This QA Inspector randomly observed a hand held gas torch was used to preheat the base metal prior to the start of welding to a temperature greater than the minimum temperature of 125°F. This QA Inspector periodically observed QC Inspector Fred Von Hoff monitoring the preheat temperature. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 170 amperes using a 4.0 mm diameter E7018H4R electrode. This QA Inspector observed various welding personnel may switch between the 3.2 mm, 4.0 mm and 4.8 mm diameter electrodes depending upon weld joint configuration largely depending upon root pass, fill and cover passes. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1050-CU. This QA Inspector observed welding appeared to be completed on the top side of the OBG section during the shift.

14E-PP125.2-E4.2 – Vent Hole: This QA Inspector observed ABF welding personnel Todd Jackson (#4639) fitting up the infill plate at this location. This QA Inspector observed QC Inspector Fred Von Hoff perform a fit up inspection on the weld joint and was informed the fit up was accepted. This QA Inspector performed a visual verification of the fit up and the work appeared to comply with the contract requirements. Prior to tack welding the infill plate to the deck this QA Inspector observed a hand held gas torch was used to preheat the metal to a temperature greater than 125°F. This QA Inspector observed the temperature was verified by QC Inspector Fred Von Hoff using an electric temperature gauge. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 125 amperes for a 3.2 mm diameter electrode and 175 amperes for a 4.0 mm diameter electrode. This QA Inspector observed both electrodes were an E7018H4R. The welding observed appeared to comply with ABF-WPS-D15-1050-CU. This QA Inspector observed welding did not appear to be completed on the top side of the OBG section during the shift.

14E-PP126.2-E3.2 – Vent Hole: This QA Inspector observed ABF welding personnel Rick Clayborn (#2773) had back gouged the bottom of this weld joint from inside the OBG section. This QA Inspector observed QC Inspector Fred Von Hoff perform a visual and Magnetic Particle Testing (MT) on the back gouged section of the weld joint. This QA Inspector performed a visual verification and the work appeared to comply with the contract requirements. This QA Inspector observed ABF personnel Ian Murphy using a hand held gas torch to preheat prior to welding. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 133 amperes using a 3.2 mm diameter E7018H4R electrode. The welding observed at this location

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this shift appeared to comply with ABF-WPS-D15-1050-CU. This QA Inspector observed the welding appeared to have been completed. The welding for this weld joint appears to have been completed.

14E-PP126.7-E2.9 – Vent Hole: This QA Inspector observed ABF welding personnel Eric Sparks (#3040) fitting up the infill plate at this location. This QA Inspector observed QC Inspector Fred Von Hoff perform the fit up inspection and was informed that he had accepted the work. 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 QC Inspector Fred Von Hoff verify the base metal was greater than the minimum preheat temperature of 125°F prior to welding using an electronic temperature gauge. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 135 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used. The welding observed appeared to comply with ABF-WPS-D15-1050-CU. This QA Inspector observed the welding was not completed during the shift this date.

At various locations on OBG section 14E: This QA Inspector randomly observed ABF personnel Paul Fabrini using a grinder with a sand paper flapper wheel cleaning the paint and square cut edge of the single bevel joints. The work appeared to be in preparation of pending fit ups and welding.

12E/13E-weld joint C: This QA Inspector randomly observed QC Inspector John Pagliero performing Ultrasonic Testing (UT) from outside the OBG section at this location from approximately C-1.2 thru C-2. This QA Inspector observed QC Inspector John Pagliero perform UT at various locations where repair welding had been performed and was ready for final inspection. This QA Inspector randomly observed as a UT signal was maximized and was informed by QC Inspector John Pagliero it was due to a defect in the weld. This QA Inspector observed the defect was marked at weld joint C-2; Y-700 with a length of 40 mm and depth of 17 mm. This QA Inspector was informed by QC Inspector John Pagliero that he had rejected several other areas and that the UT was still in progress. This QA Inspector observed the transducer being used was a 70 degree shearwave, the scanning pattern and technique, defect sizing (length only) and inspection and/or verification from both sides of the weld joint appeared to comply with the contract requirements.

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
