

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-026814**Date Inspected:** 05-Dec-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 Box Girder (OBG):

13E/14E-weld D-1 (SPCM) Repair: This QA Inspector observed ABF welding personnel Wai Kitlai (#2953) and Xiao Jian Wan (#9677) using the Shielded Metal Arc Welding (SMAW) process for welding repairs at this location from outside the OBG section during this shift.

At Y-2080 and Y-2990 this QA Inspector observed ABF welding personnel Wai Kitlai (#2953) using the SMAW process to complete welding at this location. This QA Inspector observed the base metal preheat temperature was greater than 325°F and was informed by QC Inspector Fred Von Hoff the defect excavations were as follows; Y-2080 – length-105 mm, width-30 mm and depth-20 mm, Y-2990 – length-130 mm, width-30 mm and depth- 16 mm. QC Inspector Fred Von Hoff informed this QA Inspector the welding parameters for ABF welding personnel Wai Kitlai (#2953) were 137 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used in the overhead (4G) position. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1004 Repair being used by the QC Inspector. This QA Inspector observed when the welding was completed the Post Weld Heat Treatment (PWHT) started and was informed by ABF welding personnel Wai Kitlai (#2953) the liquid induction heating equipment had been set for 1-1/2 hour of

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PWHT. This QA Inspector periodically checked the temperature of the areas and observed the temperature was greater than 450°F and the PWHT was on for a minimum of 1-1/2 hours. The work at this location appeared to comply with ABF-WPS-D15-1004 Repair and be completed this date.

At Y-4415 this QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) preheating the base metal with a hand held gas torch prior to using the carbon arc process to excavate a defect. This QA Inspector verified the base metal temperature was greater than 225°F using a temperature indicating marker. This QA Inspector observed QC Inspector Fred Von Hoff perform a visual and Magnetic Particle Testing (MT) on the excavation after grinding to remove the dross and was informed the inspections were accepted. This QA Inspector performed a visual verification and observed the excavation appeared to be free of any defects and approximately 80 mm long, 16 mm wide and 12 mm deep. The excavation appeared to be slopped at each end have a radius and contoured width to allow adequate room for welding. This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) use a temperature indicating marker rated at 325°F prior to starting the SMAW welding. This QA Inspector observed QC Inspector Fred Von Hoff verify the following welding parameters; 135 amperes. This QA Inspector observed a 3.2 diameter E7018H4R was being used in the overhead (4G) position. This QA Inspector observed the welding appeared to be completed at approximately 1145 hours this shift and that the PWHT started upon completion. This QA Inspector was informed by ABF welding personnel Xiao Jian Wan (#9677) the timer on the liquid induction heating equipment had been set for 1-1/2 of PWHT. This QA Inspector periodically checked the temperature of the areas and observed the temperature was greater than 450°F and the PWHT was on for a minimum of 1-1/2 hours. The work at this location appeared to comply with ABF-WPS-D15-1004 Repair and be completed this date.

At Y-6165 this QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) preheating the base metal with a hand held gas torch prior to using the carbon arc process to excavate a defect. This QA Inspector verified the base metal temperature was greater than 225°F using a temperature indicating marker. This QA Inspector observed QC Inspector Fred Von Hoff perform a visual and Magnetic Particle Testing (MT) on the excavation after grinding to remove the dross and was informed the inspections were accepted. This QA Inspector performed a visual verification and observed the excavation appeared to be free of any defects and approximately 135 mm long, 22 mm wide and 12 mm deep. The excavation appeared to be slopped at each end have a radius and contoured width to allow adequate room for welding.

13E/14E-weld joint A-2.2 + 1500 mm (SPCM): This QA Inspector observed QC Inspector John Pagliero performing Ultrasonic Testing (UT) using a 70 degree shear wave transducer.

13E/14E weld joint I (SPCM): This QA Inspector observed QC Inspector Jesus Cayabyab performing UT using a 70 degree shear wave transducer. QC Inspector Jesus Cayabyab informed this QA Inspector he rejected 4 areas and had 2 recordable indications by the end of the shift.

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:

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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
