

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017280**Date Inspected:** 01-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1100**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 Section**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 to monitor American Bridge/Fluor (ABF) welding operations.

The following observations were made:

- 1) At weld joints E7/E8 – D1 and D2, inside the OBG section: ABF welding personnel James Zhen (#6001) was performing Submerged Arc Welding (SAW). QC Inspector Tony Sherwood was present and monitoring the work.
- 2) At weld joints E7/E8 – A1 thru A5, outside the OBG section: ABF welding personnel Xiao Jian Wan (#9677) and Hua Qiang Hwang (#2930) were using the Flux Cored Arc Welding (FCAW) process to weld the continuous tack weld for this joint. QC Inspector Tony Sherwood was present and monitoring the work.
- 3) At weld joints E6/E7 – B, inside the OBG section: ABF welding personnel Jin Quan Huang (#9340) was using the SMAW process to weld the transition area between the backing bar on “A” (deck) weld and the “B” (edge plate) weld. QC Inspector Tony Sherwood was present and monitoring the work.
- 4) At OBG section E2, ABF personnel were preparing the bevel edges by chipping and grinding for Access Hole plate L2E-N.
- 5) QC Inspector Steve McConnell was performing UT on Access Plate weld L1E-N. See below for details.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

6) QC Inspector John Pagliero was performing Ultrasonic Testing (UT) on the Access Hole weld L1E-S. See below for further details.

7) At Round, Deck Penetration 1E-PP8.5-E4 #2 ABF welding personnel Darcel Jackson (#9967) was performing repair welding using the SMAW process. QC Inspector Steve McConnell was present and monitoring the work.

At weld joints E7/E8 – D1 and D2, inside the OBG section this QA Inspector observed ABF welding personnel James Zhen (#6001) performing SAW using a track system for production welding. Prior to the start of welding this QA Inspector observed QC Inspector Tony Sherwood verify the base material was preheated to a temperature greater than the minimum specified in the Welding Procedure Specification (WPS). This QA Inspector observed as QC Inspector Tony Sherwood verified the following welding parameter for the first weld pass: 560 amperes and 33.2 volts at a travel speed of 385 mm per minute to produce a heat in put value of 2.89 kJ per mm. The welding observed by this QA Inspector appeared to comply with ABF-WPS-D15-4042B-1. At various times throughout the shift this QA Inspector randomly observed the work being performed at this location.

At weld joints E7/E8 – A1 thru A5, outside the OBG section this QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) and Hua Qiang Hwang (#2930) using the Flux Cored Arc Welding (FCAW) process to weld the continuous tack weld for this joint. This QA Inspector observed the welding was performed inside a closure to protect the shielding gas used during the welding process. This QA Inspector randomly observed QC Inspector Tony verify the following welding parameters: (1) for ABF welding personnel Xiao Jian Wan (#9677) 230 amperes and 23.2 volts at a travel speed of 320 mm per minute to provide a heat input value of 1.000 kJ per mm. (2) for ABF welding personnel Hua Qiang Hwang (#2930) 246 amperes and 22.7 volts at a travel speed of 330 mm per minute to provided a heat input value of 1.015 kJ per mm. The welding observed by this QA Inspector appeared to comply with ABF-WPS-D15-F3200-2. At various times throughout the shift this QA Inspector randomly observed the work being performed at this location.

At weld joints E6/E7 – B, inside the OBG section this QA Inspector observed ABF welding personnel Jin Quan Huang (#9340) using the SMAW process to weld the transition area between the backing bar on “A” (deck) weld and the “B” (edge plate) weld. QC Inspector Tony Sherwood was present and monitoring the work. This QA Inspector verified the following welding parameters: 130 amperes using a 3.2 mm diameter E7018H4R electrode. The welding observed appeared to comply with ABF-WPS-D15-1200F.

At OBG section E2, this QA Inspector observed ABF personnel using a grinder and/or power chipper to bevel the edges of Access Hole plate L2E-N in preparation for welding.

This QA Inspector randomly observed QC Inspector Steve McConnell while he was performing UT on Access Plate weld L1E-N. The transducer, wedge, scanning pattern and technique being used appeared to comply with the contract requirements. The UT inspection was in progress and approximately 25% complete at this time. No indications were observed to be marked on the weld face at this time.

This QA Inspector randomly observed QC Inspector John Pagliero while he was performing UT on Access Plate weld L1E-S. The transducer, wedge, scanning pattern and technique being used appeared to comply with the contract requirements. Previously QC Inspector John Pagliero had inspected approximately 75% of the weld

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

length and had marked 10 areas for repair. QC Inspector John Pagliero completed the UT inspection this date and informed this QA Inspector an additional 2 areas had been rejected, therefore a total of 12 areas had been rejected by QC.

At Round, Deck Penetration 1E-PP8.5-E4 #2 this QA Inspector observed ABF welding personnel Darcel Jackson (#9967) performing repair welding using the SMAW process. This QA Inspector observed QC Inspector Steve McConnell was present and monitoring the work. This QA Inspector performed a verification of the welding parameters and observed the following: 123 amperes using a 3.2 mm diameter E7018H4R electrode. This QA Inspector was informed by QC Inspector Steve McConnell this was the second repair cycle (R-2).

Summary of Conversations:

As noted above.

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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
