

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021715**Date Inspected:** 07-Mar-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:** Tower Grillage**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 was on site between the times noted above.

South Tower leg:

This QA Inspector randomly observed ABF Welding personnel Richard Garcia (#5892) and Jason Collins (#8128) were performing Shielded Metal Arc Welding (SMAW) on various Complete Joint Penetration (CJP) welds.

This QA Inspector observed ABF welding personnel Richard Garcia (#5892) using the carbon arc process to remove weld metal at TGS P1-P2 in preparation for repair welding. The status of the welding at the end of the shift was as follows: Weld Repair at TGS P1-P2 was previously excavated and welding appeared to be approximately 50% completed and at TGS P1-P5 the weld was excavated and the root layer had been completed. In general CJP welds were approximately 80% completed. Partial Joint Penetration (PJP) welds – appear to be complete, except for cleaning, grinding and any pick up welding. Fillet welds – approximately 30% complete.

East Tower leg:

This QA Inspector randomly observed ABF welding personnel Rick Clayborne (#2733) and Gilbert Peralta (#9453) performing SMAW on various PJP welds. The status of the welding at the end of the shift was as follows: CJP welds had approximately 4-5 mm thick root passes. PJP welds were approximately 95% completed. Fillet

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welds had at least one pass.

West Tower leg:

This QA Inspector randomly observed ABF welding personnel Sal Sandoval (#2202) performing SMAW on various CJP welds depositing a minimum of 4-5 mm thick root passes. The status of the welding at the end of the shift was as follows: CJP welds, 2-had approximately 4-5 mm thick root passes.

This QA Inspector was informed by QC Inspector Fred Von Hoff the welding parameters for the personnel noted above were within the required heat input range in the Welding Procedure Specifications (WPS) ABF-WPS-D15-1162-4 for the PJP welds, ABF-WPS-D15-1042A-4 for CJP welds and ABF-WPS-D15-F1206 for Fillet welds. Note the welding parameters are the same for all three procedures. This QA Inspector randomly observed the amperages and voltages of ABF welding personnel noted above and they appeared to be within the ranges in the WPS. This QA Inspector observed that both 3.2 mm and 4.0 mm diameter E9018H4R electrodes were being used and stored in separate heated storage containers. This QA Inspector also observed the 1-hour exposure limit for the electrodes appeared to be monitored and adhered to.

This QA Inspector performed a random visual verification of the PJP welds in South Tower leg and observed multiple areas where the required 7 mm reinforcing fillet weld was undersized and the overall contour of the welding was not acceptable. This QA Inspector had marked several areas of each, pointed the areas out to QC Inspector Fred Von Hoff and was informed that he has not performed a final visual inspection of the PJP welds or on any of the other welds as of this date. QC Inspector Fred Von Hoff informed this QA Inspector that he was waiting for welding to be completed prior to marking the areas for grinding and pick up welding due to the limited size of the work space.

The welding/work observed this date appeared to comply with the contract requirements.

This QA Inspector had previously received Weekly Welding Report submittal; ABF-Sub-001536 Rev-44. This QA Inspector performed a review of the documents to determine compliance with the Welding Quality Control Plan (WQCP) submitted by the contractor, compliance with the applicable contract requirements and to determine if any Quality Control (QC) documents were missing. This QA Inspector documented the findings on a weld specific tracking log and informed QA Inspector Bill Levell of the findings. This QA Inspector placed the reviewed documents in the applicable files.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described 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

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Reviewed By: Levell,Bill

QA Reviewer