

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-023882**Date Inspected:** 20-May-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:** Steve Jensen**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:** SAS Tower**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower West Shaft Splice #1 @Elevation 50.3meters:

At West (B-C) corner, upper splice plate; This QA Inspector randomly observed ABF welding personnel Morgan Winters continuing to perform production welding on the bottom half of the upper splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed ABF personnel using a propylene gas torch on areas prior to welding. This QA Inspector observed QC Inspector Steve Jensen using a Fluke infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 240 amperes and 21.7 volts with a travel speed of 95 mm per minute with equivalent heat input of 3.28 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. During the shift, 3F fillet welding of the upper splice was completed and the welder has moved to the bottom of the splice plate and performed 4F (overhead) fillet welding. The welder was noted using Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing Caltrans approved ABF-WPS-D15-F1200A. At the end of the shift, overhead welding was completed and ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

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At Tower North Shaft Splice #1 @Elevation 50.3meters:

At Northeast (B-C) corner, upper splice plate; This QA Inspector randomly observed ABF welding personnel Rick Clayborn perform production welding on the top half of the upper splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed ABF personnel using a propylene gas torch on areas prior to welding. This QA Inspector observed QC Inspector Steve Jensen using a Fluke infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 270 amperes and 22.0 volts with a travel speed of 85 mm per minute with equivalent heat input of 4.2 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. At the end of the shift, 3F fillet welding on both sides of the upper splice top half was still continuing and should remain tomorrow. ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

At Tower East Shaft Splice #1 @Elevation 50.3meters:

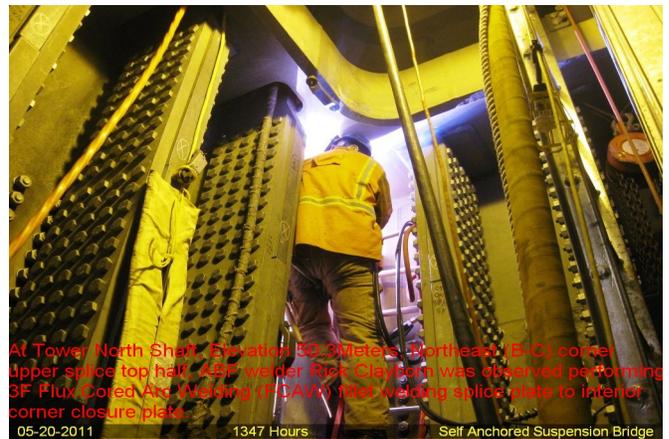
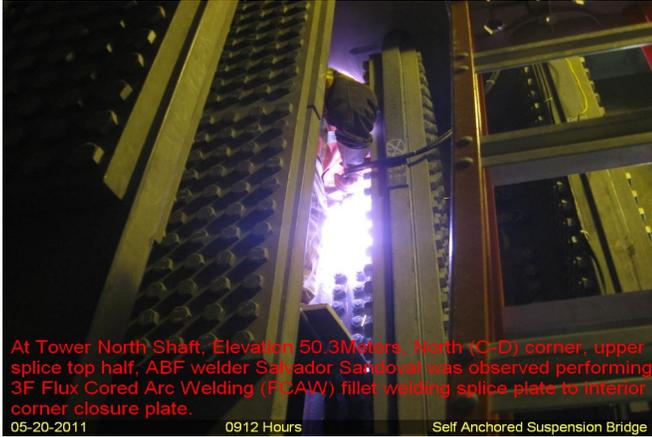
At Tower East Shaft, East (C-D) corner, upper splice plate, ABF welder Richard Garcia was observed continuing to perform 3F fillet welding on the top half of the upper splice plates to the interior corner closure plate. The welder was noted using self shielded Flux Cored Arc Welding (FCAW) with 1.8mm diameter E71T-8 wire electrode implementing Caltrans approved (WPS) ABF-WPS-D15-F2200-3. During the shift, ABF welder Salvador Sandoval has replaced welder Richard Garcia and continued fillet welding after the VT acceptance of the West Shaft, Northwest (C-D) corner. The welder was using the same process as the previous welder was using. While Salvador Sandoval was continuing fillet welding, Richard Garcia was noted mobilizing tools and equipment at the Tower South Shaft Elevation 112Meters splice number 3 in preparation for the next splice welding location. At the end of the shift, fillet welding of the splice plate to interior corner closure plate at East Shaft, East corner was still continuing and should remain tomorrow. ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT of the fillet welding of two (2) splice plates. The QA verification was performed to verify that the welding and the VT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. Tower West Shaft Elev. 50.3meters Northwest (C-D) corner upper splice – QA VT verified
2. Tower West Shaft Elev. 50.3meters Northwest (C-D) corner lower splice – QA VT verified

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Summary of Conversations:

No significant conversation occurred today.

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 SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer