

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-024245**Date Inspected:** 01-Jun-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:** 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 East Shaft Splice #1 @ Elevation 50.3 meters:

At East (B-C) corner, lower splice plate; This QA Inspector randomly observed ABF welding personnel Salvador Sandoval continuing to perform production welding on the top half of the lower splice plate using the self shielded Flux Cored Arc Welding (FCAW) process with 1.8mm diameter E71T-8 wire electrode implementing Caltrans approved (WPS) ABF-WPS-D15-F2200-2. This QA Inspector observed ABF personnel using a propylene gas torch to preheat the plates to be welded 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 2F welding parameters and observed 340 amperes and 23.5 volts with travel speed of 200mm per minute with equivalent heat input of 2.5 KJ per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-2. Right after the completion and cleaning of fillet weld, the welder had asked for VT from QC. QC performed visual test (VT) and noted the size and surface profile of the fillet weld was in compliance to the contract requirements. After the QC acceptance of the joint, this QA also performed VT and noted same result. Right after the joint QA/QC acceptance, 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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After the final QA/QC VT acceptance of the upper and lower splice plates, the welder was seen moving his welding equipment and accessories to the new welding location Tower South Shaft Splice #3 @Elevation 114 meters. With the help of two other ABF personnel, all the welding equipment and accessories were moved to the new location at the end of the shift. There was no welding performed at this new location today due to unavailability of the Miller Proheat 35 Induction Heating System.

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

At Southeast (C-D) corner, upper splice plate; This QA Inspector randomly observed ABF welding personnel Mike Jimenez continuing to perform production welding on the bottom half of the upper splice plate using the self shielded Flux Cored Arc Welding (FCAW) process with 1.8mm diameter E71T-8 wire electrode implementing Caltrans approved (WPS) ABF-WPS-D15-F2200-3. This QA Inspector observed ABF personnel using a propylene gas torch to preheat the plates to be welded 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 22.0 volts with a travel speed of 85 mm per minute with equivalent heat input of 3.7 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 of the bottom half was still continuing which 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 West Shaft Splice #3 @Elevation 114 meters:

At Tower West Shaft, ABF welder Richard Garcia and one ABF personnel were noted grinding off the paint on all four splice plates. While the other personnel was grinding off the paint, Richard Garcia was noted lining up the exact location of the upper and lower splice plates on West (B-C) and Northwest (C-D) corners.

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 East Shaft Elev. 50.3meters East (B-C) corner upper splice – QA VT verified
2. Tower East Shaft Elev. 50.3meters East (B-C) 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