

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-023450**Date Inspected:** 06-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 East Shaft Splice #2 @Elevation 83meters:

At East (B-C) corner, lower splice plate; this QA Inspector randomly observed ABF welding personnel Morgan Winters continuing to perform production welding on the bottom half of the splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed ABF personnel using 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 265 amperes and 20.5 volts with a travel speed of 100 mm per minute with equivalent heat input of 3.26 KJ per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. During the shift, the welder has completed the fillet weld cover on both sides of the joint and so with all the minor fixes due to surface profile. During the shift, 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 #2 @Elevation 83meters:

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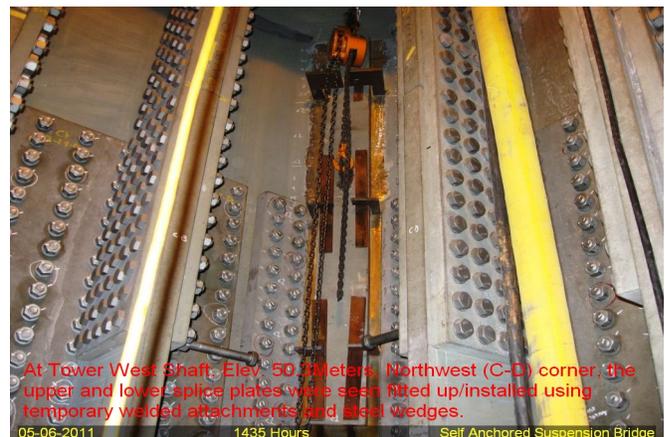
At Southeast (C-D) corner, upper splice top half, this QA randomly observed ABF welding personnel Salvador Sandoval perform 4F overhead fillet welding at the bottom of the plate. The welder was noted using Shielded Metal Arc Welding (SMAW) with 5/32" diameter E7018H4R electrode implementing ABF-WPS-D15-F1200A. Prior welding, the welder was noted preheating the plates to more than 225°F using propylene gas torch. ABF QC Steve Jensen was noted monitoring the parameters of the welder and measured working current of 184 amperes at the time of welding which appears in compliance to the WPS. Welding of the overhead fillet was completed during the shift and the welder also performed minor fixes due to surface profile. After the completion of the welding, ABF personnel were noted covering the weld with heater blanket and preheated and held the temperature of more than 300°F for three hours 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 #1 @Elevation 50.3meters:

At Tower West Shaft West (B-C) corner, ABF welder Richard Garcia was observed performing fit up of the lower and upper splice plates to interior corner closure plate. The welder has tack welded using SMAW various temporary attachments to the interior corner closure plate and used wedges to hold the lower/upper splice plates in place. The welder was also noted preheating the plate to more than 225°F prior welding. ABF QC Steve Jensen was noted at site monitoring the welder and his welding parameter. The welder has completed the fit up on the West (B-C) corner and then moved to the other corner Northwest (C-D). The welder performed the same task as he did on the first corner and completed the fit up at the end of the shift. During the shift, fit up of the splice plates at location mentioned above was completed.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT of the fillet welding of four (4) 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. 83meters East (B-C) corner upper splice – QA VT verified
2. Tower East Shaft Elev. 83meters East (B-C) corner lower splice – QA VT verified
3. Tower East Shaft Elev. 83meters Southeast (C-D) corner upper splice – QA VT verified
4. Tower East Shaft Elev. 83meters Southeast (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