

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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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-024529**Date Inspected:** 22-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 Mc Connell and Pat Swain			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 North Shaft Splice #3 @Elevation 114 meters;

At Northeast (B-C) corner, upper splice plate; This QA Inspector randomly observed ABF welding personnel Salvador Sandoval 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. The welder was noted 3F (vertical) fillet welding the splice plate to interior corner closure plate of the tower shaft. 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 260 amperes and 21.9 volts with a travel speed of 95 mm per minute with equivalent heat input of 3.6 KJ per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. During the shift while fillet welding was still continuing, fellow QA Scott Croff took over the observations of the production welding.

At Tower North Shaft Splice #3 @Elevation 114 meters;

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At North (C-D) corner, upper splice plate; This QA Inspector randomly observed ABF welding personnel Xiao Jian Wan 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. The welder was noted 3F (vertical) fillet welding the splice plate to interior corner closure plate of the tower shaft. 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 255 amperes and 21.5 volts with a travel speed of 90 mm per minute with equivalent heat input of 3.65 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. During the shift while fillet welding was still continuing, fellow QA Scott Croff took over the observations of the production welding.

At Tower Base Elevation 13Meters Shear Plate Electro Slag Welding (ESW);

This QA was present at the Tower Base to observe the Electro Slag Welding of the weld number E-042 located at 'K' position per ABF weld map. The weld joint to be welded is a 60mm shear plate to Tower East Shaft skin plate (70mm) 'A', T- joint located at the corner of tower East shaft skin plates 'A' and 'B'. ABF intends to implement Caltrans approved welding procedure ABF-WPS-ESW-150T in performing the ESW.

Upon QA's arrival, ABF personnel were noted preparing to weld the shear plate T- joint by checking all the necessary electrical and water hose weld shoe cooling connections are all in place prior to commence ESW. It was noted that three weld shoes were in position at each opposing side of the joint and so with the consumable guide tube that was placed in between the joint gap which was separated by consumable ceramic insulators. Other ABF personnel that were noted assisting the preparation of the ESW include ABF Production Manager John Callaghan, ABF QC Manager Jim Bowers and Mr. Bob Turpin of Oregon Institute of Technology.

The fit up alignment was jointly checked by ABF QC Steve Mc Connell and this QA. The root gap was measured from bottom to top and the result noted was 20.2mm minimum and 25mm maximum which deemed in compliance to the WPS.

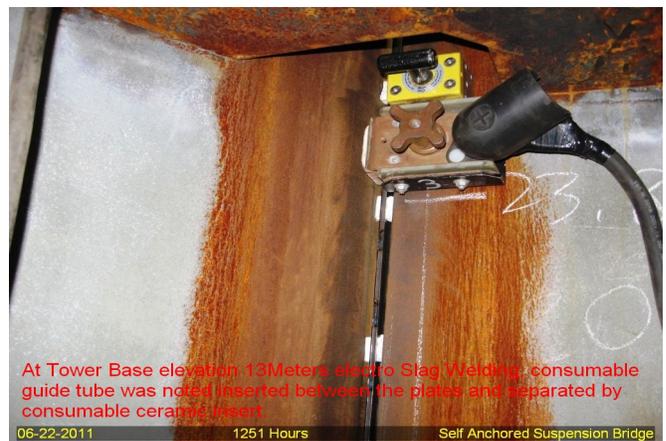
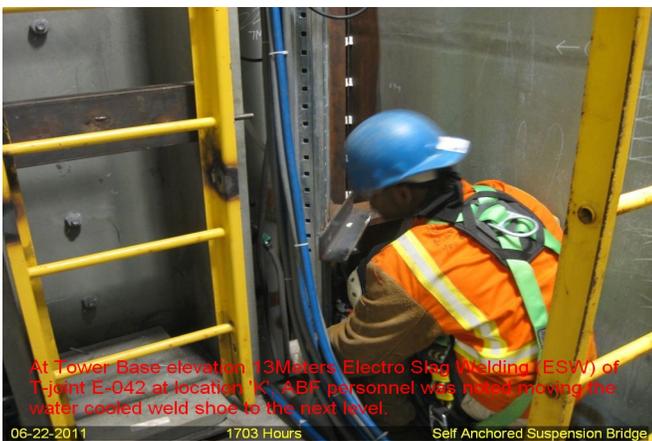
At 1230hours, ABF Operations Superintendent Dan Ieraci and ABF QC Steve Mc Connell performed the check list verification and noted it was all OK.

At 1245hours, all ABF personnel involved in the ESW converged and performed a pre-operations meeting reminding each and everyone's role in performing their job. During the meeting, ABF Operations Superintendent Dan Ieraci warned the ABF personnel that due to wider gap and different configuration of the joint, the ESW will need more flux and the wire speed will be increased. After the meeting at around 1300, ABF personnel went for lunch and came back 1330 and went to their own respective assignment and positioned themselves and got ready for the start.

Initial firing of the ESW has started at 1336 hours and it was successful and that the welding parameters have stabilized. The operation continued until the successful completion of the joint at around 1851 hours.

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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