

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027394**Date Inspected:** 02-Apr-2012**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: Bernie Docena
Inspected CWI report: Yes No N/A
Electrode to specification: Yes No N/A
Qualified Welders: Yes No N/A
Approved Drawings: Yes No N/A

CWI Present: Yes No
Rod Oven in Use: Yes No N/A
Weld Procedures Followed: Yes No N/A
Verified Joint Fit-up: 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 Base 9 meter external diaphragm, this QA Inspector randomly observed ABF personnel Wai Kitlai continuing to perform 2F (horizontal position) fillet production welding on the 25mm thick fit lug to the 45mm thick 9-meter inner East external diaphragm plate on one side and to the 60mm thick vertical stiffener plate on the other side. The welder was using the dual shielded Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 225°F. This QA Inspector performed a verification of the welding parameters and observed 266 amperes and 23.0 volts. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2. During the shift, the welder has completed the 22mm fillet weld on two sides of the four (4) fit lugs marked W092-15 to W092-18. All other fit lugs inside inner East external diaphragm FCAW-G fillet welding still in progress. The welder held the same preheat for three (3) hours after welding as required.

At Tower Base 9 meter external diaphragm, this QA Inspector randomly observed ABF personnel Jin Pei Wang perform 2F (horizontal position) fillet production welding on the 25mm thick fit lug to the 45mm thick 9-meter inner East external diaphragm plate on one side and to the 60mm thick vertical stiffener plate on the other side.

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The welder was using the dual shielded Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 225°F. This QA Inspector performed a verification of the welding parameters and observed 270 amperes and 23.8 volts. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2. During the shift, the welder has completed the 22mm fillet weld on two sides of the two (2) fit lugs marked W092-19 to W092-22. All other fit lugs inside inner East external diaphragm FCAW-G fillet welding still in progress. The welder held the same preheat for three (3) hours after welding as required.

At Tower Base 13 meter inner West external diaphragm, this QA Inspector randomly observed ABF personnel Xiao Jian Wan continuing to perform 4F (overhead position) fillet production welding on the perimeter C10 channel to 45mm thick diaphragm plate fillet weld joint W132-1. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 128 amperes on the 1/8" diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, SMAW fillet welding was still continuing and should remain tomorrow.

At Tower Base 13 meter inner West external diaphragm, this QA Inspector randomly observed ABF personnel Luo Xiao Hua continuing to perform 4F (overhead position) fillet production welding on the perimeter C10 channel to 45mm thick diaphragm plate fillet weld joint W133-2. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 130 amperes on the 1/8" diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, SMAW fillet welding was still continuing and should remain tomorrow.

At Tower Base 9 meter outer East external diaphragm, ABF welder Han Wen Yu was noted grinding/cleaning the fillet welded fit lug weld joints W091-19 to W091-36 and PJP T-joint W029 between the 9 meter diaphragm plate and 80mm shear plate in preparation for the visual test (VT) and Magnetic Particle Testing (MT). At the end of the shift, grinding/cleaning was still continuing and should remain tomorrow.

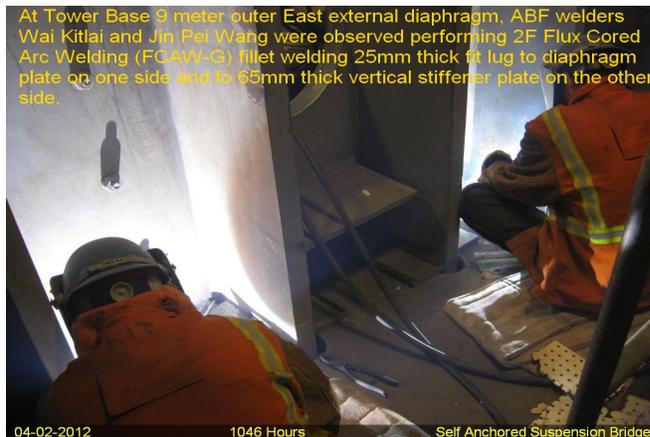
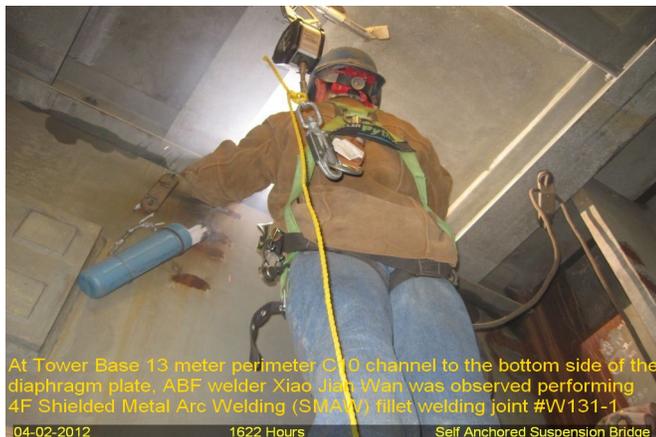
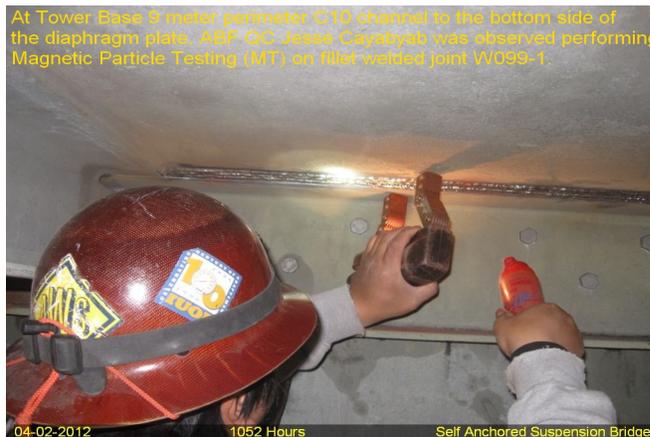
At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the two (2) perimeter C10 channel to diaphragm plate fillet weld joints. The QA verification was

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performed to verify that the welding and the VT/MT inspection performed by the QC inspector at 9 meter inner West external diaphragm 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. W099-1 fillet weld joint – weld cover QA verified
2. W099-2 fillet weld joint – weld cover QA verified



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